

QK
1
S664
SI-Ref C.2

An Introduction to the Botanical Type Specimen Register

STANWYN G. SHETLER

with Mary Jane Petrini, Constance Graham Cutley,
M. J. Harvey, Larry E. Morse, Thomas E. Kopfler
and Collaborators

SERIAL PUBLICATIONS OF THE SMITHSONIAN INSTITUTION

The emphasis upon publications as a means of diffusing knowledge was expressed by the first Secretary of the Smithsonian Institution. In his formal plan for the Institution, Joseph Henry articulated a program that included the following statement: "It is proposed to publish a series of reports, giving an account of the new discoveries in science, and of the changes made from year to year in all branches of knowledge." This keynote of basic research has been adhered to over the years in the issuance of thousands of titles in serial publications under the Smithsonian imprint, commencing with *Smithsonian Contributions to Knowledge* in 1848 and continuing with the following active series:

Smithsonian Annals of Flight
Smithsonian Contributions to Anthropology
Smithsonian Contributions to Astrophysics
Smithsonian Contributions to Botany
Smithsonian Contributions to the Earth Sciences
Smithsonian Contributions to Paleobiology
Smithsonian Contributions to Zoology
Smithsonian Studies in History and Technology

In these series, the Institution publishes original articles and monographs dealing with the research and collections of its several museums and offices and of professional colleagues at other institutions of learning. These papers report newly acquired facts, synoptic interpretations of data, or original theory in specialized fields. These publications are distributed by mailing lists to libraries, laboratories, and other interested institutions and specialists throughout the world. Individual copies may be obtained from the Smithsonian Institution Press as long as stocks are available.

S. DILLON RIPLEY
Secretary
Smithsonian Institution

An Introduction to the Botanical Type Specimen Register

Stanwyn G. Shetler

with Mary Jane Petrini, Constance Graham Carley,
M. J. Harvey, Larry E. Morse, Thomas E. Kopfler,
and Collaborators



SMITHSONIAN INSTITUTION PRESS

City of Washington

1973

ABSTRACT

Shetler, Stanwyn G., with Mary Jane Petrini, Constance Graham Carley, M. J. Harvey, Larry E. Morse, Thomas E. Kopfler, and Collaborators. An Introduction to the Botanical Type Specimen Register. *Smithsonian Contributions to Botany*, number 12, 186 pages, 3 figures, frontispiece, 1973.—In the first part, the development of a computer-based system for storing and retrieving information about botanical type specimens is described from its pilot stage to its present operational stage. The concept, purpose, and scope are explained, and the operational procedures are outlined. Ways of using and contributing to this computerized register of types, both in the short-run and in the long-run, are proposed. A statistical summary of the content of the Type Register as of 30 September 1972 is given. Over 13,000 specimens representing more than 10,000 taxa have been registered. The second part consists of a Catalog of more than 1,000 specimens representing over 600 taxa of the genus *Carex* (Cyperaceae), which are deposited in ten major American herbaria, and the Catalog is cross-indexed five different ways: by author, publication date, collector, country, and herbarium. An introduction summarizes the preparation and editing of the Catalog. This *Carex* Catalog represents the first published installment of the Type Register and as such is intended to serve as an example.

COLLABORATORS

Listed here by institution are the persons who have collaborated in the compiling of data from their respective herbaria for the *Carex* Catalog:

California Academy of Sciences, Golden Gate Park, San Francisco, California 94118; Stanford University (Dudley Herbarium), Stanford, California 94305; University of California (Herbarium), Berkeley, California 94720

Dr. John H. Thomas, Associate Professor of Biological Sciences and Curator of Dudley Herbarium (Stanford), Curator of Botany (Academy), and compiler of data at Berkeley; assisted by Dr. Margaret Sharp

Field Museum of Natural History, Roosevelt Road at Lakeshore Drive, Chicago, Illinois 60605

Dr. William C. Burger, Associate Curator of Vascular Plants; assisted by Mr. Ronald L. Liesner

Harvard University, 22 Divinity Avenue, Cambridge, Massachusetts 02138

Dr. Richard A. Howard, Director, Arnold Arboretum; Dr. Reed C. Rollins, Asa Gray Professor of Systematic Botany and Director of the Gray Herbarium

Missouri Botanical Garden, 2315 Tower Grove Avenue, St. Louis, Missouri 63110

Dr. Walter H. Lewis, Senior Botanist, Professor of Biology (Washington University); assisted by Dr. Raymond F. Altevogt

New York Botanical Garden, Bronx Park, New York 10458

Dr. Howard S. Irwin, Director; Dr. Patricia Kern Holmgren, Associate Curator and Herbarium Administrator; Dr. Noel H. Holmgren, Associate Curator

Smithsonian Institution, Washington, D. C. 20560

Dr. Mason E. Hale, Curator of Cryptogams; Dr. Dan H. Nicolson, Associate Curator of Phanerogams

OFFICIAL PUBLICATION DATE is handstamped in a limited number of initial copies and is recorded in the Institution's annual report, *Smithsonian Year*, SI PRESS NUMBER 4783. SERIES COVER DESIGN: Leaf clearing from the katsura tree *Cercidiphyllum japonicum* Siebold and Zuccarini.

Library of Congress Cataloging in Publication Data

Shetler, Stanwyn G.

An introduction to the botanical type specimen register.

(Smithsonian contributions to botany, no. 12.)

Bibliography: p.

I. Information storage and retrieval systems—Botany—Type specimens. 2. *Carex*. I. Title. II.

Title: Botanical type specimen register. III. Series: Smithsonian Institution. Smithsonian contributions to botany, no. 12.

QK1.S2747 no. 12 [Z699.5.B6] 581'.08s[579] 72-11706

Foreword

It always has been the policy of the United States National Herbarium to make its collections as easily available as possible. We have welcomed visitors and loaned specimens on request since the founding of our herbarium. Now, in an effort to make our collections even more accessible, we have undertaken a new project to compile a computerized catalog of our type collection of approximately 65,000 specimens. Eventually, we hope to broaden this catalog, which we are calling the "Botanical Type Specimen Register," to include the type collections of many other institutions so that it will serve as a union listing of types. Already we have enlisted the cooperation of other institutions, and the computer file presently includes records from more than a score of herbaria.

The United States National Herbarium, a worldwide collection of plants now totaling some 3 million specimens, is administered by the Smithsonian Institution's Department of Botany, a unit of the National Museum of Natural History. The Department of Botany has played a pioneering role in the development of the Museum's active program in data processing. The Type Register is the Museum's first operational effort in cooperative, multi-institutional (network) data banking and, as such, is of special interest. If this approach to common data banking proves successful, it will point the way for many cooperative efforts in other branches of natural history.

Although the Type Register is still very much in its infancy, we are zealous to demonstrate its potential to the botanical community with a tangible product so that we can receive advice and counsel from the community on the basis of concrete results while the data bank is still small and susceptible to modification. This publication should prove useful in itself as a catalog of type specimens of *Carex*, particularly to specialists on the family Cyperaceae. The larger purpose, however, in issuing a preliminary catalog of limited scope at this time is to demonstrate the concept of the Type Register in concrete terms and thereby to solicit the collaboration of all plant systematists in molding the Register into an effective, scholarly tool for future generations of the profession.

The computer file presently registers over 13,500 type specimens, representing some 10,500 vascular plant taxa. Thus the *Carex* Catalog, with its 1,000 specimens and 600 taxa, is a printout of less than 10 percent of the current, rapidly growing file. Less formal and less expensive means of putting out the information will be tried with future installments, and it may become desirable or necessary at some point to begin publishing in microform. Perhaps the most common and economical mode of disseminating the accumulated information will be to provide computer printouts to individual users in response to queries for up-to-the-minute reports on specific taxonomic groups. Once the data bank is well established query service can be provided to any user for a modest fee.

We welcome your reaction to the concept of the Botanical Type Specimen Register on the basis of this sample. Only with the backing of the botanical community can we continue to get the necessary financial support to carry on the work.

EDWARD S. AYENSU, *Chairman*
Department of Botany
30 September 1972

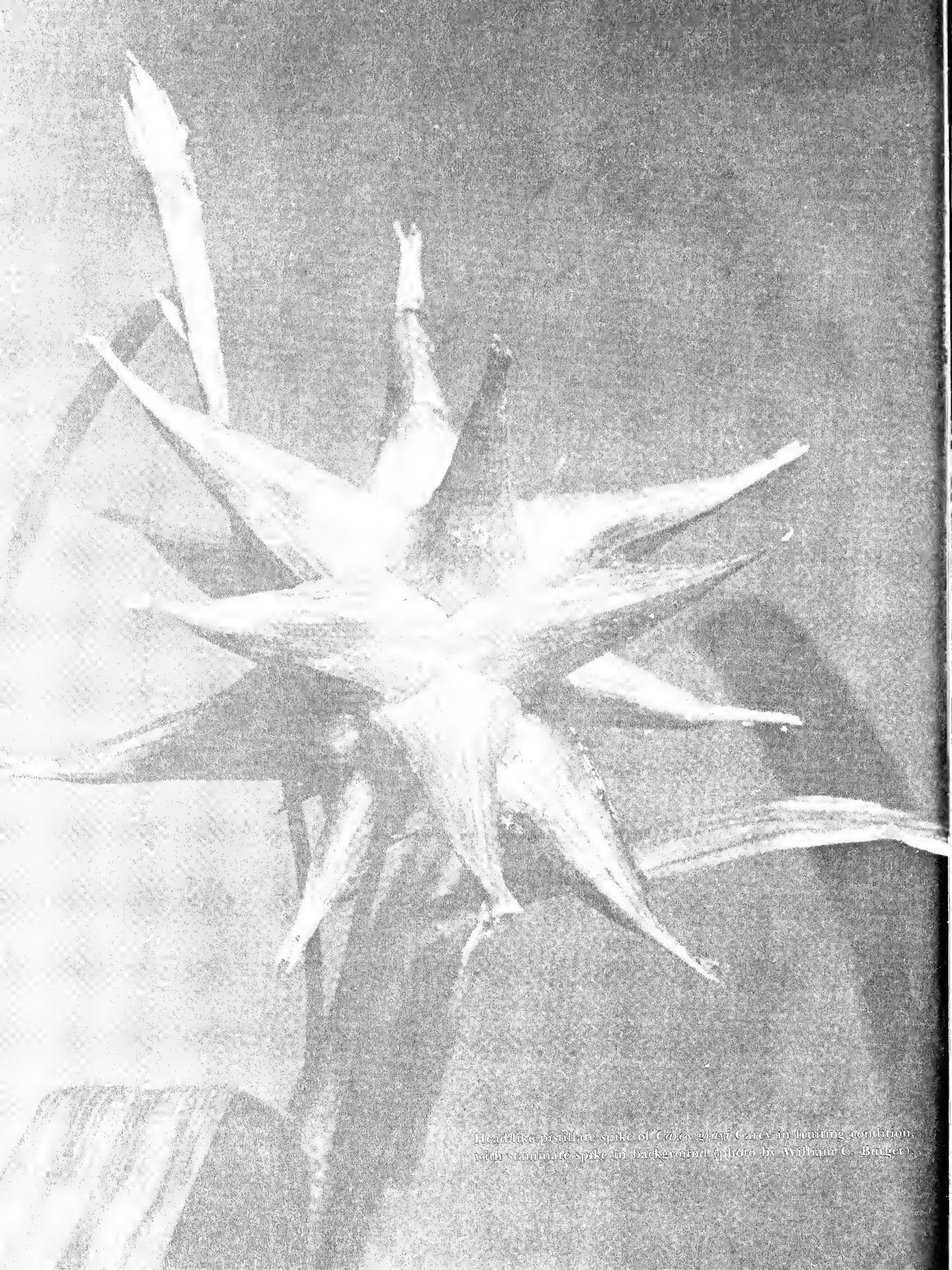
Contents

	<i>Page</i>
Foreword	iii
THE BOTANICAL TYPE SPECIMEN REGISTER	
Stanwyn G. Shetler	
Introduction	1
Acknowledgments	3
Concept and Purpose of Type Register	6
Scope of Register	10
Procedures and Standards	12
Source of Data	12
Instructions for Contributors	12
Record Format and Content	15
Level 1—Taxon Data	16
Family	16
Genus and Genus Synonym	16
Species	16
Infraspecific Taxon	17
Author	17
Title	17
Level 2—Collection Data	17
Collector(s)	17
Collection Number	18
Collection Date(s)	18
Geographic Data Fields	18
Level 3—Specimen Data	19
Herbarium Abbreviation	19
Herbarium Sheet Number	19
Kind of Type	19
Data Source Code	21
Processing System	21
Paper Tape System	22
On-Line System	22
Optical Scanning System	22
Magnetic Tape System	22
Computer Processing System	22
Statistical Summary of Type Register Contents	23
Use of Type Register	25

A CATALOG OF THE GENUS *Carex* (CYPERACEAE)

Stanwyn G. Shetler (*Editor*); Mary Jane Petrini, Constance Graham Carley, M. J. Harvey,
Larry E. Morse (*Assistant Editors*); Thomas E. Kopfler (*Programmer*); and Collaborators

Contributing Institutions	26
Data-Collection Procedure	27
Editorial Process	28
Milestone Events	29
Use of <i>Carex</i> Catalog	31
Errata	33
Statistical Summary of Catalog	33
Catalog of Specimens	34
Author Index	105
Publication-Date Index	118
Collector Index	131
Geographic Index	149
Herbarium Index	162
Bibliography	185



Head-like proflure spike of *Carex 2/237* *Carex* in fruiting condition, with staminate spike in background (photo by William C. Budget).

An Introduction to the Botanical Type Specimen Register¹

Stanwyn G. Shetler, with Mary Jane Petrini, Constance Graham Carley,
M. J. Harvey, Larry E. Morse, Thomas E. Kopfler, and Collaborators

The Botanical Type Specimen Register

STANWYN G. SHETLER

Introduction

The Botanical Type Specimen Register is a computer-based system for recording information about type specimens of plant species and infraspecific taxa, which is designed to become a union registry of type holdings in the world's herbaria. It introduces a new dimension to the management of herbarium collections. Through the use of advanced information processing methods, critical data are compiled from the herbarium and library and merged into a common, machine-searchable file from which catalogs can be printed or special queries, defined by complex selection criteria, can be answered rapidly on demand. As a result, future taxonomic investigators will be able to learn the whereabouts of type specimens of particular concern to them and obtain answers to certain basic questions without painstaking research or time-consuming travel or correspondence.

The Type Register was conceived by Mason E. Hale, who organized a pilot project in 1968 while he was chairman of the Smithsonian's Department of Botany. This was one of several projects that Hale initiated as chairman to introduce electronic data processing (EDP) to collection management in the United States National Herbarium. (For a description of his automated system for recording specimen exchanges, see Hale and Creighton, 1970; the pilot Type Register project is described in Shetler et al., 1971.) At the outset, the author and Flora North America (FNA) personnel assisted in the development of the pilot system, and the project, though separate, has continued until the present to be associated closely with the FNA program (Shetler and Meadow, 1971). After launching the pilot effort, Hale, while continuing his involvement on an advisory level, passed the supervisory responsibility to the author, who continues to direct the work.

The project was initiated with special funds. In fiscal year 1969 and 1970, limited allocations of regular funds of the National Museum of Natural History were made through the Department of Botany, but regular budgeting did not begin until FY-71 (1 July 1970-30 June 1971) when the Museum organized a new, Museum-wide program in data processing and incorporated the Type Regis-

Stanwyn G. Shetler, Department of Botany, Smithsonian Institution, Washington, D.C. 20560; same address: Mary Jane Petrini; Constance Graham Carley (née Graham) (present address: 275 Collier Rd., Atlanta, Georgia 30309); M. J. Harvey (present address: Department of Biology, Dalhousie University, Halifax, Nova Scotia); Larry E. Morse (present address: Biological Laboratories, Harvard University, Cambridge, Massachusetts 02138); Thomas E. Kopfler.

¹This is No. 70 in the *Flora North America Report* series.

ter as one of the charter projects. These projects are controlled by the respective departments, but the overall program is coordinated and managed by James F. Mello, Assistant Director.

The response to the several requests for participation during the pilot phase was excellent, showing general interest among botanists and convincing Hale and others at the Smithsonian of the potential value of a type-specimen register and of the botanical community's willingness to collaborate to the fullest extent possible in creating a register along the lines conceived. From the preliminary experiments much was learned about the logistical problems and the costs and manpower requirements of network data banking. The Smithsonian necessarily is concentrating present operations on its own type collections of about 65,000 specimens. The system is designed, however, to accept data from any institution at any time, and as long as the inflow remains on a small scale, data from other institutions can be added to the central file by the present staff more or less as they are received. It is hoped that as interest in collaboration grows support commensurate to the interest will be forthcoming both for the central operation and for participating institutions.

The second part of this paper represents the first published installment of the Type Register. It is a provisional union catalog of the type specimens of the genus *Carex* on deposit in ten major American herbaria (see "Contributing Institutions") and a concrete example of cooperative data banking.

In FY-72, the year that ended on 30 June 1972, the Type Register project finally was put on a solid footing. Midway through this year it was possible for the first time in the four-year history of the project to staff adequately by employing three full-time persons (two assistant editors and a data conversion operator) and also to have adequate funds to process regularly. Prior to January 1970, the pilot project was carried on intermittently as funds were available by one to three part-time employees, and from January 1970 to December 1971 the project advanced on a more or less continuous, operational basis with the assistance of one, two, and occasionally three full-time persons, the number depending again on available money. During the pilot effort, the computer analysis, programming, and file processing were done on a part-time basis, as needed, by personnel of the Smithsonian Infor-

mation Systems Division, and since the project has become operational this work has been performed on a similar basis by FNA personnel so as to keep the Type Register system compatible with the FNA system.

From the beginning Hale planned for the inclusion of data from an indefinite and constantly growing number of other institutions and actively sought such collaboration. In one test of the feasibility of multi-institutional input, he distributed a computer-printed set of 52 cards, representing a card catalog of the National Herbarium's complete type holdings in the genus *Mimulus* (Scrophulariaceae), to each of 50 large herbaria in the United States and abroad and solicited their cooperation in providing similar data from their own type collections, if any, of *Mimulus*. A second major test involved sending a computer-printed card catalog of the National Herbarium's complete type holdings in the family *Lamiaceae* (Labiatae) to the University of California, Los Angeles, where Carl Epling's extensive type collections in this family are deposited, and later to the Missouri Botanical Garden and the New York Botanical Garden. All three institutions cooperated in providing data from their own collections of types in this family. The latter two institutions continued thereafter to collaborate as much as possible on other taxonomic groups, and, apart from the Smithsonian itself, they have been the institutions with the greatest involvement in the Type Register project.

Certainly, no claim to completeness can be made for a catalog that concerns a single genus and only one percent (10/1000) of the world's public institutional herbaria (Shetler, 1969). "Usefulness" is the pragmatic criterion for compilation and publication of the Type Register, however, and usefulness is dependent on critical mass, not absolute coverage. Clearly it is unrealistic to think that the Type Register could ever achieve absolute completeness, registering *all* type specimens for *all* published taxa in *all* of the world's herbaria, and the Register has not been conceived on this false premise. The Register is being created on the assumption that some information is better than no information and that a catalog of ten type collections is more useful than a catalog of one type collection. Although it must be admitted that the coverage is very uneven among the ten herbaria contributing to the *Carex* Catalog, for example,

nevertheless this Catalog tells us more than we have ever known before about the *Carex* type collections of the participating institutions and provides a solid framework to which new information can be added as it becomes available from these or any other institutions.

The concept of a type register is not new. Already in the mid-1930s, A. S. Hitchcock of the Smithsonian Institution, in his capacity as chairman of the Committee on Nomenclature of the Botanical Society of America, coordinated the compilation of information on the location of type specimens. Lists of authors of new names, indicating the major group(s) of plants they described (e.g., phanerogams) and the herbaria where they deposited their types, were compiled (Hitchcock et al., 1934, 1935). Other members of the Committee in 1934 were L. R. Abrams, J. C. Arthur, A. W. Evans, J. M. Greenman, M. A. Howe, E. D. Merrill, F. W. Pennell, and C. L. Shear. "The Committee is not attempting to decide what specimens are types nor to determine the identity of types," Hitchcock wrote in 1934; "it is attempting only to aid botanists in their search for types." His words can only be reiterated in the present context. Other recent efforts to catalog types have been made in connection with specimen-data retrieval projects in the herbarium or museum (e.g., Beschel and Soper, 1970; Collier, 1971; Crovello, 1972).

Information processing technology has advanced far since the days of the first applications in biology, when the limitations of the computer led to some unfortunate consequences, as thoughtfully analyzed, for example, in reviews by Wood et al. (1963) and Rollins (1966) of some early applications in plant taxonomy. We make no pretense of having avoided all the pitfalls cataloged by these reviewers, but we have tried to make good use of their advice. If we have learned anything so far, we have learned that no one can design the perfect system on the first trial. Every operational system is at the same time a pilot system for an even more advanced and refined, next-generation system.

ACKNOWLEDGMENTS.—Without the inspiration and genius of Mason E. Hale the Type Register would not exist. While chairman of the Smithsonian's Department of Botany (1967–69), he had not only the foresight to inaugurate this computer application but also the fortitude to persist with administrative support for it when others did not

always share his vision nor his optimism for its potential value. The continuing support of Richard S. Cowan, former Director, National Museum of Natural History, and of Hale's successor as chairman, Edward S. Ayensu, have been crucial in putting the project on a stable footing. The Assistant Director, James F. Mello, and his assistant, David Bridge, deserve much credit for laying the budgetary groundwork that has brought the project to its present viable and relatively healthy state, and for facilitating its administration. From his vantage point as overseer of all EDP projects in the National Museum of Natural History, including the Type Register, Mello has provided stimulating and wise counsel, as well as constant encouragement and help.

Many curators have contributed in some way to the development of the Type Register thus far, especially in the course of the multi-institutional data-collecting experiment with *Mimulus*, conducted by Hale, and their cooperation is hereby gratefully acknowledged. Those curators and their assistants who participated directly in the compilation of data for the *Carex* Catalog are listed earlier as "Collaborators." Among them, Hale, Irwin, Lewis, and Nicolson have taken a dedicated personal interest in the success of the Type Register from the beginning and have in effect constituted a standing advisory editorial board. In their respective institutions, they have played a role in all of the data compilation that has been done for the Register thus far, regardless of the taxonomic group. As a Smithsonian colleague, Nicolson has been a steadfast supporter of the project, showing deep interest in the work itself and sharing his time and seemingly inexhaustible nomenclatural knowledge willingly and unselfishly whenever there has been need, which often has been daily. John H. Thomas raised enthusiasm for the Type Register to a new level when, as a result of his collaboration on the *Carex* Catalog, he began to ask specialists borrowing from the collections he curates to compile data for the Register from type specimens loaned to them and to affix an annotation label of his own design to each, which reads, "The written information on this specimen has been abstracted for the TYPE REGISTER PROJECT by _____ on _____."

With respect to the editorship of the *Carex* Catalog, Carley, who served the FNA program and the Type Register project from December 1969 to April 1971, and Petrini, who is the senior technical editor of the Type Register project, assisted Shetler with the day-to-day *technical* editing. Harvey and Morse assisted him with the *botanical* editing during the year that each spent working at the Smithsonian on the FNA program—1969–70 and 1971–72, respectively. Harvey provided botanical supervision of the data-capture operation during the initial input of *Carex* records from the Missouri Botanical Garden, New York Botanical Garden, and the U.S. National Herbarium. He directed the two-week, on-site input effort at the New York Botanical Garden in June 1970, which involved other genera besides *Carex*. Cynthia N. Ostroff of the *Index Nominum Genericorum* project assisted part-time at the Smithsonian in the technical editing of the *Carex* data from Harvard University. Marilyn Andraeson helped with the data compilation at the Missouri Botanical Garden, while similar assistance was rendered by Zella Ellshoff, Robert Helliwig, and Gail Johnson at the New York Botanical Garden.

At least part of the *Carex* Catalog was examined in near final form by Frederick J. Hermann of the U.S. Forest Service Herbarium at Fort Collins, Colorado, and Tetsuo Koyama of the New York Botanical Garden, specialists on *Carex* and the family Cyperaceae, respectively. Although both provided helpful comments, they should not be held responsible in any way for the final Catalog, because neither was able to devote the enormous amount of time that would have been required to check the file authoritatively. This responsibility rests with the editors and collaborators.

Several specialists at the New York Botanical Garden have provided data to the Type Register for groups other than *Carex*: Caroline Allen (Lauraceae: a few records of selected taxa), Patricia Kern Holmgren (Brassicaceae: *Draba*, *Thlaspi*), Tetsuo Koyama (Cyperaceae: a few records of selected taxa), John T. Mickel (Schizaeaceae: *Anemia* subgenus *Coptophyllum* and segregate genera), and Ghilleen T. Prance (Chrysobalanaceae, Dichapetalaceae). (See also "Statistical Summary of Type Register Contents.") Holmgren has been the one chiefly responsible for coordination at the working level of the New York Botanical Garden's col-

laboration in the Type Register project. Mildred E. Mathias, Director, Botanical Gardens-Herbarium, supervised the compilation of data on types of the family Lamiaceae at the University of California, Los Angeles, early in the project. Bruce MacBryde assisted in the compilation of the data for this family and for the genus *Mimulus* at the Missouri Botanical Garden. Other botanists who deserve mention for playing a part in the project at the Smithsonian are Amy Jean Gilmartin, Monterey Peninsula College, Monterey, California, and Miloslav Kovanda, Czechoslovak Academy of Sciences, Prague, who spent the years 1969–70 and 1970–71, respectively, with the FNA program.

The FNA Editorial Committee (John H. Beaman, Walter H. Lewis, John McNeill, John T. Mickel, Peter H. Raven, Stanwyn G. Shetler, Roy L. Taylor, John H. Thomas) has taken a deep interest in the Type Register project from the outset and provided financial and material support through the FNA program, as well as invaluable advice and encouragement. A report on progress has been given at every meeting of the Committee since the Register was organized, and much time has been devoted to evaluation of the present and future development of the Register.

The pilot processing system was designed by Reginald Creighton, Manager of Information Storage and Indexing, and programmed by Willard Handley, both of the Smithsonian's Information Systems Division. Creighton worked closely with Hale to develop the pilot system, which served the original purposes well, and the Type Register would not exist if it had not been for Creighton's pioneering insight and dedication. When the project became more closely associated with the FNA systems effort, Harriet R. Meadow, Systems Development Manager of FNA, designed the present operational system in its general outlines. Kopfler has been responsible for the detailed design and

FIGURE 1.—Stages in the preparation of records for the Type Register: *a*, Constance Carley checks nomenclatural data in the Gray Herbarium Card Index; *b*, Mary Jane Petrini enters corrections into the computer via a remote typewriter terminal connected by telephone (photos *a* and *b* by Walter G. Peter III); *c*, type specimens of the genus *Viola* (Violaceae) are examined and discussed with respect to the problems of recording them in the Type Register by (left to right) M. J. Harvey, John T. Mickel, and Harriet R. Meadow in the herbarium at the New York Botanical Garden (photo by New York Botanical Garden).



programming and for the maintenance and querying of the machine files. Morse wrote the COBOL program for concatenating the data into the paragraph form used in the *Carex* Catalog. Meadow's analysis and design resolved some basic unforeseen problems that arose after using the pilot system for a time, and her efforts resulted in the operational system that continues to serve very well. She has played a crucial role in the success of the project and continues to provide advice and guidance on matters of systems development. Several botanists who also have experience with computer applications have provided valuable advice from time to time: Theodore J. Crovello, University of Notre Dame; David J. Rogers, University of Colorado; and James H. Soper, National Museum of Natural Sciences, Ottawa.

Technical help in editing and capturing data has been given by the following persons, listed in the order in which they were hired, some as employees of FNA and others as employees of the Type Register project: John Bolduc, Nancy Howard, Barbara Bryant, Grace Rickard, Edna Montford, Mary Beth Moore, Barbara Halter, Gudrun Christenson, and Rita Abessinio. Julia E. Taylor and Liliosa Mangosing Evangelista have been cheerfully indispensable in discharging the myriad clerical and administrative tasks without which a project of this nature could never succeed.

In addition to receiving regular budgetary support on an increasing scale from the Smithsonian Institution, the Type Register project has been funded in part by the National Science Foundation through grants made to the American Institute of Biological Sciences (GB-8441, GN-812, GB-26173) and to the Smithsonian Institution (GB-31715 and contract C-720) for the FNA program, the Smithsonian Research Foundation (grants Sg0621054, Sg0621054/C1 and Sg0621054/C2), and the Smithsonian Office of Systematics.

Concept and Purpose of Type Register

Perhaps 200 million specimens are on deposit in the more than one thousand public herbaria in the world, and scattered among these vast collections may be as many as 4 million type specimens (Shetler, 1969; Shetler et al., 1971). North American herbaria alone probably contain more than a half-million types. Likewise the original publications

describing new plant taxa and establishing their types are myriad and scattered through the world's literature. The taxonomist who wishes to make a scholarly study of a group of species, including an investigation of their typification, faces the formidable task of locating the relevant original descriptions and type specimens. Fortunately for him, two standard indices, *Index Kewensis* (Rouleau, 1970; Meikle, 1971) and the *Gray Herbarium (Card) Index* (Shaw, 1971), and various standard library catalogs and union listings are readily available to guide him to the pertinent literature. No similar indices exist, however, to guide the taxonomist to the pertinent type specimens. To find types he first must search the original literature case by case for indications or clues and then, through travel or correspondence, continue his search in herbaria among the specimens themselves. Even with the original descriptions in hand the specialist often faces great difficulties in trying to determine where the types are deposited. The modern literature still shows an astonishing lack of standardization in the way types are designated and their herbarium deposition indicated.

What the taxonomist needs, therefore, is a *finder's guide* to the type holdings of at least the world's major herbaria. This guide should be indexed primarily by taxon but also cross-indexed several ways, and it should include citations of the original publications and basic collection data as provided by the specimen label and/or published description. Such an index ultimately would incorporate and enhance the functions of *Index Kewensis* and the *Gray Herbarium Index*. This type of registry could become effective at once for newly published taxa if taxonomists would agree to require registration of all new taxa and type depositions at the time of publication as a condition for effective publication. Furthermore, the registry, if computerized, would be the logical central repository for specialists' annotations on typification, especially with respect to lectotypification and neotypification. Plant taxonomy desperately needs an effective central place and straight-forward procedure for registering lectotypes, neotypes, and specialists' conclusions about other kinds of types.

The Botanical Type Specimen Register, as conceived, therefore, is to serve primarily as a finder's guide for locating type specimens. The secondary function, however, is to serve as a guide to the

original descriptions of the registered taxa and to provide collection data for the registered specimens. The specimen information necessarily is organized by taxonomic name. Thus the file is not purely a *specimen* register; the data are organized so as to constitute a three-level hierarchy: taxon, collection, specimen. A full entry (record) in the Register is, therefore, a synthesis of data from the herbarium and the library which cannot be completed without examining the original specimen *and* the original publication, as well as other specimens and publications as necessary. A record can be initiated with data from either the herbarium or the library and supplemented later by data from the other. To a degree this happens naturally as other institutions contribute to the initial record, but in any event years may elapse before all records of a given taxonomic group can be brought to relative completeness.

The development of the Type Register ultimately involves three stages: registration, verification, and validation.

The immediate objective is to initiate the computerized working file without getting bogged down in time-consuming researches to resolve challenges of the validity of the data. Such scholarly research is the province of specialists who may need years to resolve particularly difficult nomenclatural and typification questions, and the preparation of the kind of index envisaged here could never be accomplished if all questions had to be answered first and the compiled data had to be "perfect." In the first stage, therefore, the primary goal is to record or *register* the facts more or less at face value as they are given by the available primary and/or secondary sources. Research and editing are kept to a minimum except where obvious discrepancies can be resolved without extensive investigation. The editing is restricted largely to formatting the data according to the technical standards of the processing system, and to standardizing the use of names, titles, and terms in key fields.

The second stage is to *verify* all data by firsthand examination of the pertinent specimens and original publications. When the data are compiled in the first place from the original sources expressly for the Type Register, verification is accomplished in the process of preparing the data for registration, and the two steps merge into a single operation. When a secondary source such as an existing

card file or published index is used, however, there is a need to verify the information subsequently by checking the specimens and original descriptions. Two examples will illustrate. (1) *Index Kewensis* and the *Gray Herbarium Index* constitute indispensable secondary sources of references to original publications, but the original publications themselves must be examined in order to verify both the existence of the descriptions and the accuracy of the citations. (2) Present-day revisions and monographs customarily indicate where the key type specimens are deposited, but this information is not considered verified, for purposes of the Register, until the specimens have been seen *in the process* of compiling the data for the Register, because the data must be verified in the context of the specific requirements of the Register. This is a critical point.

It should be emphasized here that a taxonomic revision or monograph, no matter how carefully and authoritatively executed, constitutes a secondary source of information for all taxa treated except those being described to science for the first time. In fact, as synthetic works, these treatises often present only the barest details on type specimens, especially for previously described but even for newly described taxa, and the author's own nomenclatural interpretations frequently are not clearly distinguished from the original data. It is not unusual, for example, to discover in the process of verifying a record in the Type Register that the author of a revision or monograph, in identifying what he believed to be the holotype, unwittingly designated a lectotype or even a neotype by strict application of the international rules of botanical nomenclature. Therefore, except as a reference to the original sources, for which it is of course invaluable, the monographic treatise has proved to be a disappointing *starting point* for compiling the Type Register; it seldom provides all necessary data and often presents summaries of the original facts which are telegraphic to the point of being imprecise or even inaccurate. On the other hand, the monographic treatise is indispensable in the third or validation stage, because it deals in a systematic way with the typification of the taxa covered and establishes authoritative precedents that must be considered in the interpretation of the information in the Type Register. Furthermore, short of having all the original references and specimens in

hand, the monograph, which brings together all the data for a taxonomic group into one place, is by far the best *single* source of data for the given group.

Verification is not a simple procedure that can be accomplished once for all time but an involved, virtually never-ending process, which seems to expand in direct proportion to the number of specimens and publications examined. Comparison of the original description with data from one or more specimens rarely can be made without uncovering at least minor discrepancies that must be reconciled. As types from additional herbaria are registered it often becomes necessary to reexamine the original publication and secondary references again and again to resolve new discrepancies, and such discrepancies frequently multiply faster than they can be resolved as publication after publication is consulted. Gazetteers, atlases, biographies and biographical dictionaries, personal fieldnotes and letters, and even new correspondence with current specialists, in addition to the obvious taxonomic treatises and reference works, may be employed eventually in the course of trying to verify the data of an entry in the Register.

Apart from the facts themselves is the matter of interpretation and judgment. The compilation of any highly condensed, formatted, and standardized file of data such as the Type Register is bound to involve much interpretation of fact and judgment of what to include and what to exclude. The computer imposes the additional problem of judging how best to format and standardize the data for search and retrieval. As new data are provided or brought to light, there is a constant need to reevaluate prior interpretations and judgments, and this in turn may require reexamination of previously consulted literature and specimens. The problem is one not only of accuracy and completeness within a given record but also of consistency among records. How the geographic information is standardized in the record for Taxon A, for example, has a direct bearing on how the geographic information is standardized for Taxon B, and decisions made for the first case without knowledge of special problems to be faced in the second case may have to be reevaluated and changed when the two records are considered together. In short, there is no *a priori* way to set standards for all time.

The long-term goal of the third and ultimate stage in the development of the Type Register is to *validate* the data according to the rules of the *International Code of Botanical Nomenclature* (ICBN; Stafleu et al., 1972) and thereby to establish the Register as a wholly reliable, authoritative index of types of plant species and infraspecific taxa. Validation involves typification, specifically the designation of kind or status of type, and such matters as rank, priority, synonymy and homonymy, authorship, and orthography. Up to a point, the records can be validated by any botanist or technical person skilled in the strict application of the provisions of the ICBN, because many of the problems are purely technical or legal. Indeed, experience with the Type Register has proved that a trained technical editor frequently makes decisions more consistent with the ICBN than the specialist, at least insofar as the objectives of the Register are concerned. Such technical validation, while it greatly increases the reliability of the data, nevertheless is without the force of authority that can be gained only through the sanction of the taxonomic authorities themselves. As in all taxonomic research, many of the questions that arise regarding typification have no absolute answer but require good judgment by an experienced specialist on the basis of all available evidence, and no amount of technical expertise could suffice. This type of authoritative validation is needed in the long run if the Type Register is ever to take its place as an indispensable and thoroughly accepted tool of plant systematists, and it is hoped that the specialists will cooperate in validating the information in the Register as it becomes available group by group in preliminary form. In the short run, however, the most that can be achieved is some degree of technical validation. The important point to stress here is the dynamic state of the file which can be updated at any time to accord with current knowledge and understanding.

Like verification, validation is a continuous process that never really ends, because the light of new information often requires important reevaluations and appropriate changing of the computer file. At the same time, a basic threshold can be achieved. A record is considered verified at least on an initial basis once the original description and all registered specimens have been seen in person by someone compiling and editing data expressly for the T.

Register. Likewise a record is considered validated at least initially once the designation of types has been worked out in accordance with the *ICBN* expressly within the framework of Type Register specifications and format. These thresholds must be attained before the second and third stages of development can be said to have been achieved on a minimal basis. Authoritative validation as described above, on the other hand, will require the input of many specialists in the years to come and is a very long-term proposition.

The three stages of development may be summarized as follows:

Stage 1. *Registration*.—Creation of the initial file, which involves basic standardization of citation and geographical fields.

Stage 2. *Verification*.—Editing file against primary sources in the light of the accumulated data.

Stage 3. *Validation*.—Shaping the Register as an authoritative tool on typification, fully in accordance with the *ICBN*, by getting input from specialists and by incorporating information on lectotypification and neotypification, as well as other critical annotations.

In practice, registration, verification, and validation certainly are not sharply delimited phases and often merge into each other as a single process. Once the original description and specimens are in hand one attempts to accomplish as much of the entire three-stage process as possible. Verification and validation, in particular, tend to overlap; it is in fact impossible to accomplish the one without to a degree accomplishing the other. From the point of view of the daily operation, however, registration, verification, and validation represent distinct working stages in the creation of the computer data base, involving different procedures and personnel. Editorially, each stage results in a more refined, reliable, and authoritative data base. In the first stage, the data can be compiled and registered entirely from secondary sources, if necessary, although this is not recommended, but neither verification nor validation can be accomplished without consulting the original sources. Regarding the operational distinction between verification and validation, it should be realized that a technical person may be quite competent to verify the accuracy of the data but not to validate the type designations even with the original sources in hand. Ordinarily, technical editors are responsible for verification,

and only when professional botanists or other specialists skilled in the application of the *ICBN* perform this function is it possible to perform the validation function at the same time.

The present computer file of some 13,000 specimen entries, constituting the entire Type Register, is a registry of largely unverified and unvalidated records of apparent or *presumptive* types, and for the next several years, at least, effort will continue to be concentrated on the rapid compilation and input of similar preliminary data from many other taxonomic groups and institutions, starting with the Smithsonian's own type collection. The strategy is to register the greatest number of taxa and specimens in the shortest possible time so as to achieve quickly a critical mass of data for producing catalogs and answering queries. Clearly the usefulness of such a data base will be directly proportional to its taxonomic and institutional comprehensiveness. Unless efforts to verify and validate the data are kept to an essential minimum as new records are being processed, there is little chance that a comprehensive data base can be created in the foreseeable future. The manpower and resources simply are not available at present for the massive searches in the herbarium and library that would be required to bring every new record to the Stage 2 or Stage 3 level of refinement as it is being entered into the file. To a large extent, therefore, the Stage 1 Type Register will have to be verified and validated through use, through feedback from the specialists who discover its shortcomings in the course of their research.

Under no circumstances is the Type Register being used or is it intended to be used as a place to designate lectotypes and neotypes and thereby to set nomenclatural precedents. If the Register is ever to be used in this manner, which as indicated earlier may prove desirable eventually, the taxonomic fraternity will have to make a conscious decision to do so.

When the scope of the task is considered, it is not surprising that no one has attempted to compile a union catalog of type specimens before now. The task can be cut down to size, however, because relatively few of the world's public herbaria are large enough to have a significant concentration of type specimens. Only about a score of the world's herbaria, for example, contain over two million specimens each, and a published index, including

literature citations, to any one of these collections would be enormously useful in itself. Each new institution to be added to such a base would enhance the catalog greatly and move it one step closer to the goal of a worldwide union registry.

The U. S. National Herbarium is one of the score of major herbaria with more than two million specimens, and its type collection of 65,000 or more specimens certainly constitutes a significant initial data base. Furthermore, not only is this type collection separate from the main herbarium and easily accessible, but it also has an associated file of cards on which are recorded pertinent data from the original publication (see "Source of Data"). Without this large, ready-made card file and without computer technology, which permits the creation of a union register on a much more flexible and dynamic basis than would otherwise be possible, the Type Register doubtlessly would never have been conceived or started. The Botanical Type Specimen Register is in the first instance, therefore, an index (catalog, register) of the U. S. National Herbarium's own type collections. The thousands of man-hours that have gone into the creation and maintenance of the National Herbarium's type collection and card file have paid off, of course, to the many who through the years have used the type herbarium on the Smithsonian premises. By computerizing this information the Smithsonian's Department of Botany now makes it possible for taxonomists at large to benefit from the accumulated data and enormous manpower investment.

Scope of Register

The Register is designed to handle taxa typified by specimens, namely, taxa of the rank of species or below, and it encompasses *all* infraspecific taxonomic levels recognized by the *ICBN*. In the future, modifications in design may be desirable if not essential to accommodate cases in which the type is not a specimen but a description or a figure. For the present, however, the object is to register specimens, and for this reason data collection usually begins with the specimens and proceeds to the literature rather than the other way around. There are good reasons for arguing on the one hand that registration should proceed from the specimen to the taxon and on the other hand that the process

should be reversed, proceeding from the taxon to the specimen. No doubt this publication will stimulate debate on these alternatives; meanwhile, it should be made clear that primarily the first approach is being taken.

With one exception, only the original names of newly described taxa, i.e., taxa being described to science for the first time, are included. The one exception is a wholly new name for a previously described taxon necessitated because all other possible names and combinations would violate the international rules. *New combinations* involving previously published epithets are excluded rigorously insofar as they are known to be combinations; in such cases, only the *basionym* is entered into the Register. In one sense, therefore, the Type Register is a basionym file. This approach has been taken because it is the only feasible way in the foreseeable future to create a stable file with fixed points of reference. Eventually, viewed in the longest terms, it will be necessary to link the Type Register to a much vaster name list that shows all possible synonymy connections among basionyms and combinations and thus makes it possible to trace the nomenclatural history of a particular species, for example, from modern usage back to original usage. This is far too much to expect of the Type Register in itself, however, and for this reason the design of the Register allows for no synonymy except for orthographic variants. If a taxon originally was published under a generic or specific name with a spelling that later was corrected, then the original spelling is indicated in a special field, while the accepted spelling is shown in the main taxon field; for example, many species have been published in the genus *Penstemon* under the spelling "*Pentstemon*," and this spelling is indicated in the orthographic synonym field, as necessary. Without this approach, the same genus would alphabetize in different parts of the file (e.g., *Aplopappus* vs. *Haplopappus*).

Only validly published names are included, but the names need not be legitimate, as defined by the *ICBN* (see also McVaugh et al., 1968).

Taxonomically and geographically, the Register is limited only by the availability of data and operational resources. The present machine file includes only vascular plants and primarily flowering plants, but it could be expanded at any time to include cryptogamic groups if the data and the

resources to input the data, especially personnel, were available. The geographic scope already is worldwide because the initial source of most records, the U.S. National Herbarium's type collection, is worldwide in scope although particularly strong in New World areas. The input is further biased geographically at present by the fact that the other herbaria which have cooperated thus far on the Register also are North American institutions with principally New World collections (except Arnold Arboretum).

Inclusion of type photographs has been suggested several times, but so far this has not been done because they present special problems requiring careful study before the system can be modified to accommodate them. Whereas type specimens are unique and, even in the case of isotypes and syntypes, are distributed to a relatively limited set of herbaria among the total, type photographs are not unique, and in theory every herbarium can have a photograph of any type. The Register soon could be overloaded with references to photographs, and no purpose would be served. While there is a clear need, especially on the part of floristic workers who may be able to satisfy their requirements with photographs and thus avoid a massive borrowing of type specimens, for a central index of negatives on deposit at major centers from which type photographs could then be purchased, this problem calls for separate attention.

To an extent, the same reasoning applies to type fragments because many institutions potentially can have fragments of the same specimen. A type fragment has no standing in the *ICBN* unless it can be interpreted as a formal type of some kind (e.g., isotype), and most fragments cannot be dignified by such interpretation. In the modern era when travel and communication are easy, making the remotest corners of the earth accessible, the informational value of the type fragment in one's own herbarium has diminished greatly because the type specimen itself can be borrowed or examined by personal visit. Thus only in the case of types that have been destroyed or of types that for political or other reasons are still inaccessible can importance be attached to a register of information on the whereabouts of type fragments. In other words, the taxonomist wants to know, "Where can I find

a type specimen?" not "Where can I find a type fragment?" The latter question will interest him only if all efforts to see a type specimen fail or prove impractical. For these reasons, type fragments have been registered sparingly in the present file and only when the circumstances seem to warrant doing so.

Lectotypes and neotypes present a special problem that cannot be handled properly with the current system design. The system allows for only a single bibliographic citation, namely, the citation of the original publication where the taxon was first described and the name proposed. In cases of lectotypification or neotypification, however, it is necessary to cite also the second, later reference where the lectotype or neotype was designated. The problem has been largely ignored in this initial phase because lectotypification and neotypification cannot be documented properly without the direct participation of specialists. Identification of lectotypes and neotypes is part of the Stage 3 validation process described earlier, and by the time this level of documentation is possible the system will be modified to include a separate file, linked to the basic file, for recording lectotypes, neotypes, and other pertinent taxonomic or nomenclatural annotations. Such a file for "remarks" will provide a way of recording the names of authorities who have validated the data.

A word is necessary about the relationship of the Type Register project to the *Index Nominum Genericorum* (*ING*) project (Cowan, 1970). The object of *ING* is authoritative typification of all generic plant names. Thus it deals with genera, not species, except for type species, and it is not concerned with type specimens or collection data of any kind. Emphasis is placed on achieving at once, before input, the level of validation that the Type Register is expected to achieve only in the long run. The Register, which is not concerned with the typification of genera, and *ING* are complementary, therefore, and do not duplicate each other in any way (see also p. 16).

With respect to Flora North America, the closest links are maintained between it and the Type Register project on the one hand and *ING* on the other hand, to ensure that the work of each project will complement rather than duplicate the others.

Procedures and Standards

SOURCE OF DATA

The principal source of data at this stage is the permanent card file associated with the type collection of the U.S. National Herbarium (US). The card records are converted into machine-readable form genus by genus in alphabetical order. During the pilot phase cards were pulled from the file by family (e.g., Scrophulariaceae), but this approach is impractical for the file as a whole, which is arranged alphabetically by genus. While that approach was being taken, the cards were being compared with the specimens in the type collection, which are arranged systematically (modified Englerian sequence), prior to input. Now that an alphabetical rather than systematic approach to the file is being taken the specimen-comparison step is being postponed until the whole file is in the computer and can be sorted systematically by family.

Curators of the U.S. National Herbarium have followed the practice of segregating type specimens from the general collection since the early part of the present century. The practice was first established about 1918 by then-curator Paul C. Standley. At the same time an associated card file was started to supplement the specimen data with information from the literature. The file includes a card for every taxon (species, subspecies, variety, form) represented in the type collection, and generally the responsible curator has had the original publication in hand while preparing the card and the standard folder for filing the type specimen(s). Each card includes the original taxonomic name (basionym in cases of later transfer), author, original reference, basic collecting data, and designation of kind of type. To re-create this file today from the specimens and the literature would require at least 10 and more likely 20–30 professional man-years, and there is no reason to suppose that the file could be re-created with any higher professional standards or greater degree of accuracy on the average than the first time. In short, it is scientifically sound as well as eminently practical to create the preliminary edition of the Type Register from the Smithsonian file as it stands.

Of the 65,000 specimens in the US type collection, about 55,000 are types of phanerogamic species

and infraspecific taxa, and the other approximately 10,000 are types of cryptogamic taxa—ferns, mosses, and lichens.

Other institutions can contribute to the Type Register in any of a number of ways, as explained in the next section. Basically, there are two ways: (1) annotation of a printout listing records already registered in the machine file, and (2) submission of completed data forms or some equivalent procedure for new records not presently registered in the machine file. These are complementary procedures which must both be used. Institutions with ready-made card files like the Smithsonian's are in the best position to contribute in a significant way quickly, and their contributions will spare the smaller herbaria from repeating costly bibliographic research that already has been done somewhere else. The cumulative Register provides a basis for checking rapidly for isotypes and other "duplicate" type material, leaving bibliographic research to be performed only for those cases where new taxa are to be added to the Register. In other words, to conserve effort maximum advantage should be taken of the existing file in the process of adding new data, especially bibliographic data, and of course the larger the machine file becomes the greater can be the economy of scholarship on the part of newly collaborating herbaria.

Monographs and the personal manuscripts or files of monographers are obvious sources of authoritative data for the Register and have been used in a few instances, although there are some distinct disadvantages in using the monograph as the starting point (see p. 7). Future monographers should register data routinely for type specimens of new taxa prior to, or simultaneously with, publication. Likewise, it is hoped that graduate students in plant taxonomy will be advised to submit data on type specimens examined by them in the course of their research.

For every specimen registered in the file, a code is appended at the end of the record which indicates the source of the data according to a broad classification of source categories, summarized later under "Data Source Code."

INSTRUCTIONS FOR CONTRIBUTORS

Any herbarium interested in contributing to the Register is advised to consult with the staff at the

Please type. Enter new names only. *Essential fields, information must be given.

1. FAMILY* _____

2. GENUS* _____

3. SPECIES* _____

4. INFRA-SPECIFIC TAXON _____
(Indicate rank: ssp, var, svr, for, sfm)

5. AUTHOR(S)* _____

6. CITATION* _____
(Cite periodicals and serials according to standards of B-P-H.)

7. COLLECTOR(S)* _____

8. COLLECTION NO. _____ 9. COLLECTION DATE _____
(Indicate whose series if not collector's series.)

LOCALITY:

10. COUNTRY* _____
(Use modern name and cite original as follows: Ethiopia ("Abyssinia").)

11. STATE, PROVINCE, DEPARTMENT, OR
EQUIVALENT _____

12. COUNTY OR EQUIVALENT _____

13. TOWN OR LOCAL REFERENCE _____
(Place important words first and omit unnecessary words.)

SHEETS: 14. HERB. ACRONYM(S)* 15. SHEET NO(S). 16. KIND(S) OF TYPE(S)

1st	_____	_____	_____
2nd	_____	_____	_____
3rd	_____	_____	_____

17. REMARKS _____
(If more than 2 sheets, indicate to which sheet remarks apply.)

Note: For additional sheets, continue in "Remarks"; for additional collections
(e.g., syntypes), continue on back.

Source of information _____

References checked: _____

B-P-H _____ Gray Card Index _____ Index Kewensis _____ Other? _____

Information provided by: _____ Date _____

FIGURE 2.—Standard Data Collection Form of Botanical Type Specimen Register.

Smithsonian well in advance of initiating a project so that a compatible way of compiling data can be devised before the first record is collected. At present the Type Register staff has its hands full with the internal Smithsonian file but will do its best to cooperate with other potential contributors to set up procedures for submitting data. The most efficient way of collaborating under present circumstances is to submit the records on the standard data form (Figure 2) to the Smithsonian for processing, but with adequate planning it will be possible for another institution to convert its own data into machine-readable form in-house before submitting the data to the Smithsonian and thereby to save time and effort in the overall process, at least where large herbaria are concerned. Complete records, i.e., with all essential data present, submitted by other institutions are placed in the queue and processed in due course as time permits. Incomplete records, particularly those without proper bibliographic citations, are set aside in an inactive file where, for lack of staff to complete them, they may remain indefinitely. Potential contributors should keep in mind, therefore, that any effort that falls short of providing complete records risks becoming a wasted effort.

A collaborating institution should always work from the current catalog in the Type Register, if one exists, of the genus or other taxonomic group concerned. The *Carex* Catalog, for example, provides a checklist of taxa already registered which can be used as a tool by any herbarium wishing to search its own collections for type specimens of this genus. Working catalogs for other registered groups can be provided at cost by the Smithsonian as they are needed. The purpose of this procedure is to reduce unnecessary effort on the part of both the compiler and the editor. In the system, all specimens pertaining to a given taxon are registered under a single entry, and thus there is one unit record per taxon. It is the editor's responsibility to prevent duplications of the same taxa in the first place and in the second place to discover and delete the occasional duplication that inevitably creeps into a file of the size and complexity of the Type Register. Individual compilers can do much to assist the editor in preventing duplications, however, by keeping themselves informed, through working catalogs, of the current status of the file, and by using procedures that minimize the chances of sub-

mitting duplicate information for taxa already recorded.

The procedural details will differ from institution to institution, but these general guidelines should be followed, unless other special arrangements have been made beforehand:

(1) All new records—taxa new to the file—should be submitted on the standard data collection form (Figure 1) and according to the technical data specifications used by the Smithsonian. Be sure that the original name and not a later combination is being used.

(2) All additions to existing records—supplementary publication or collection data, and collections or specimens new to the file—should be submitted as annotations to the appropriate records in a copy of the working catalog; or, if they are submitted on standard data forms or in a separate typewritten listing, each addition should be properly referenced to the record in the file to which it belongs. Care should be taken to distinguish between specimens that belong to a collection already registered in the file and specimens that introduce a new collection but to an already registered taxon. Both constitute additions but on different levels. The latter situation arises frequently when syntypes are involved, but slight discrepancies in collection data can easily be overlooked by the compiler, leading him to the conclusion that the former situation obtains. If the collection data recorded in the Register are not identical or at least reconcilable with the collection data of the specimen in hand, then the discrepancy should be resolved appropriately or the specimen excluded. In annotating the catalog, it is important to be sure that the additions are clearly associated with the proper collection where two or more collections are registered.

(3) All proposed changes to existing information in the file should be submitted *with documentation* as annotations to the appropriate records in a copy of the working catalog; or, if they are submitted on standard data forms or in a separate typewritten listing, each addition should be properly referenced to the record in the file to which it pertains. Without documentation, proposed changes raise more questions than they answer and complicate the work of the editor.

The most common errors, experience has shown, are mistaking (1) a later combination for an origi-

nal name, (2) the type specimen of a variety or form for the type of the species itself, and (3) a syntype (or isosyntype) for an isotype. The second of these mistakes often turns out to be the explanation for the situation in which the specimen appears to have been collected after the species was described, i.e., the collection date is later than the publication date. An undetected name transfer may lead to puzzling discrepancies or to unnoticed duplication. Frequently, for example, a type collection passing under an undetected later combination becomes the basis for introducing a new taxon to the file, while at the same time the collection already is properly registered under its basionym.

A final note should be added about the use of the *Carex* Catalog or any similar working catalog in herbaria where type specimens have never been identified and segregated into separate folders or a separate collection. By means of the collector index, it is possible for curators who wish to begin segregating types to use such a catalog as a means of identifying type specimens within their herbaria which belong to collections recorded in the Type Register.

RECORD FORMAT AND CONTENT

The data content of a unit record in the Register was established largely according to the conventions long used for the US card file. With the US card format as a standard, the data form shown in Figure 2 was devised for use by contributors at other institutions. This form shows what fields of data should be included, distinguishing between essential and nonessential fields and indicating certain of the basic standards. The fields tagged as "essential" constitute the minimum number of data elements which the processing system is designed either to require or expect. From the botanical-content point of view, however, none of the fields should be regarded as optional. Every effort should be made by the contributor to provide data for all fields. Contributors can obtain blank forms at cost from the Smithsonian or use facsimiles.

Before input to the system, all records are edited to conform with the field-by-field technical specifications that have been established to standardize content and format in the system. A copy of these specifications can be made available to collaborators on request, but most contributors will not want to

be bothered with all of the technical details of the system. For purposes of contributing records, it is essential to know only the main conventions and standards that govern the content and format of the data fields. These basic standards are explained below by field, and contributors are strongly urged to follow them closely so that the work of the editor will be simplified. The rules of standardization have been applied more rigorously and consistently to the *Carex* Catalog than to any other part of the Register, and potential contributors are asked to study this Catalog carefully for specific examples of how standards have been applied to govern content, form, and style. Implicit in this Catalog are the answers to many specific questions about standardization which cannot be answered here. It should be kept in mind, however, that the typical edit format is different from the format of this published Catalog. In the typical format, the information is not strung together (concatenated) in paragraph form, but each field is labeled and printed by itself with room for annotations. Furthermore, certain fields of data (e.g., source code) have not been printed out in the *Carex* Catalog.

The reference works used most frequently in the course of compiling and editing data for the Type Register are cited in the bibliography. Some of these works have been adopted for editorial purposes as the standard references and authorities for verifying and standardizing new data during initial input. An "authority" (authority file) is an index, thesaurus, or dictionary of terms, names, or titles which is used to standardize some category of data, e.g., *B-P-H* (Lawrence et al., 1968) for titles of botanical periodicals. Published standards have been adopted as authorities whenever possible, but in some instances it has been necessary to begin creating authority files expressly for use in the Type Register project. A "standard reference" is an authoritative and reliable secondary source that provides the editor with a practical means of quickly verifying some category or categories of incoming data, e.g., a name index such as *Index Kewensis* or *Willis' Dictionary of Flowering Plants and Ferns* (7th edition, revised by Airy Shaw, 1966). Verification in this editorial sense of double-checking in secondary sources is not to be confused with verification in the primary scholarly sense discussed earlier in connection with Stage 2 development of the Type Register (p. 7).

The *International Code of Botanical Nomenclature* is, of course, the final authority on all matters of typification and nomenclature. (The 1966 edition, prepared under the chief editorship of Lanjouw and Stafleu, has been used thus far, but the newer 1972 edition of Stafleu et al. is now available.) Of the essential desk-top references, the one most frequently consulted, perhaps, is the seventh edition of Willis' *Dictionary*. Also invaluable as general reference works are Stearn's *Botanical Latin* (1966) and Stafleu's *Taxonomic Literature* (1967). Though hardly desk-top references, *Index Kewensis* and the *Gray Herbarium Index* are indispensable, and the Type Register editorial staff is fortunate in having available to it an integrated version of the former and both the card and book forms of the latter. Insofar as possible, the same procedures and standards are being applied in both the Type Register project and the Flora North America program, so that the data bases will be compatible. Authority files developed especially for the one project are being used also for the other as appropriate.

The main editorial procedures that have been adopted to verify and standardize the ingoing data are summarized below field by field. Collaborators can do much to increase the reliability and standardization of their own data by using these same procedures in the process of compilation. The editorial burden is eased greatly when the editor knows in advance that the essential standards have been upheld consistently by the contributor.

Level 1—Taxon Data

The following fields of data are recorded only once each for every species or infraspecific taxon registered in the machine file because these data are unique for each taxon. Furthermore, the taxon is the unit record, and every taxon is entered into the file only once.

FAMILY.—The latest edition of *Engler's Syllabus der Pflanzenfamilien* (vol. 1: Melchior and Werdermann, 1954; vol. 2: Melchior, 1964) is the authority for the system of families with the exception that the accepted family name with a regular ending is used in all cases, including the eight cases where the *Syllabus*, following the traditional practice sanctioned by the *ICBN* (see list of *Nomina Familiarum Conservanda*), uses irregular names. These

irregular names with their adopted regular equivalents are: Compositae/ASTERACEAE, Cruciferae/BRASSICACEAE, Graminae/POACEAE, Guttiferae/CLUSIACEAE, Labiatae/LAMIACEAE, Leguminosae/FABACEAE, Palmae/ARECACEAE, Umbelliferae/APIACEAE. The use of regular family names conforms with practice in the FNA program. Willis' *Dictionary* is used in conjunction with the *Syllabus* to determine the family to which a genus belongs.

GENUS AND GENUS SYNONYM.—*Index Nominum Genericorum*, insofar as it is completed, is the final authority for generic names, to determine their accepted spelling and whether they are validly published. Willis' *Dictionary*, which in any case is an indispensable authoritative handbook on these matters, is consulted for genera not yet covered by *ING*. Whenever the data are being compiled directly from the primary sources, the generic name is entered on the data form exactly as it was spelled in the original description of the particular species or other taxon in question. If for some reason this spelling is a variant of the currently accepted orthography of the name, then both spellings are entered into the machine file, the accepted spelling in the "Genus" field and the orthographic variant in the "Genus Synonym" field. In no case is more than one spelling permitted in the "Genus" field for the species and infraspecific taxa of any particular genus of plants.

SPECIES.—Attempt is made to record the specific epithet exactly as it was spelled originally, except where a minor change is required by the provisions of the *ICBN* governing orthography. (A two-word epithet, for example, is hyphenated to form a single word.) To verify the spelling given on the data form, the editor relies upon the *Gray Herbarium Index* and/or *Index Kewensis* insofar as possible, because to check the primary publications in all cases is impractical at this stage. These two indices, which overlap considerably in coverage, frequently provide a check on each other. Unless the taxon in question is by definition outside the limits of one of the two indices, the second index is checked routinely whenever the first does not confirm the spelling given on the data form. With respect to species regarded as being of hybrid origin, the standard practice of placing an "X" followed by a blank space before the epithet is followed.

INFRASPECIFIC TAXON.—An infraspecific taxon of any rank recognized by the *ICBN* can be accommodated in the Type Register by entering the infraspecific epithet and the appropriate rank designator in this field, e.g., VAR GRACILIS or SFM CRASSA. Infraspecific names are entered in the Register in the form of trinomial combinations with the appropriate rank designator, because this form is adequate for nomenclatural purposes; and quadrinomials create problems in the system. The *Gray Herbarium Index* is used to verify infraspecific epithets as to rank and spelling, but it covers only infraspecific taxa of the New World published during the past 100 years. For this reason, many of the infraspecific names must go unverified at this stage when extensive literature research is impractical. Following is a list of the infraspecific ranks and their standard abbreviations used in the Register:

subspecies	SSP
variety	VAR
subvariety	SVR
form	FOR
subform	SFM
nothomorph	NM.

AUTHOR.—This field carries the full last name and all initials of each author of the binomial or trinomial name under which type specimens are being registered. Whether single or multiple authors, the last name is always placed before the initials. When the use of initials only is certain to lead to confusion, the full first name also is included, e.g., MACOUN, JOHN vs. MACOUN, JAMES M., not MACOUN, J. vs. MACOUN, J. M. The publishing author or the author of the work, if different from the author of the name, is always included in this field and separated from the author of the name by "IN" or "EX" in accordance with the rules and recommendations of the *ICBN*. No authority exists for author names, but an author authority file has been started for the Type Register on the basis of the *Carex* Catalog. Further, the FNA Author File is well underway, and it is planned that the two be compatible and that ultimately they be merged. Meanwhile, the standard references are Barnhart's *Biographical Notes Upon Botanists* (1965) and Stafleu's *Taxonomic Literature* (1967), but all available biographical references are consulted as necessary. (See also under "Collector[s].") Many specific problems are en-

countered in dealing with author names, but the details are beyond the scope of this introduction. Examples of specific solutions can be found in the *Carex* Catalog.

TITLE.—The title of the periodical, monograph, or book in which the name of the taxon in question was first validly published is recorded in this field. The title of the article in the periodical or of the chapter in the monograph or book is never included or given in lieu of the title of the periodical or work. In cases where a name was introduced into the literature before it was validly published, reference is made only to the place of valid publication. A name published first without description (*nomen nudum*), for example, often is later published validly with description. *Nomina nuda* are not included in the Type Register. All titles are abbreviated consistently. *B-P-H* is the authority for abbreviating titles of periodicals. For titles of monographs and books, the Type Register project is developing its own authority file, using the principles of abbreviation set forth in *B-P-H*, and, insofar as possible, taking advantage of the title abbreviation file developed by the *ING* project. An author's or editor's name is not included in this field unless it actually is part of the title; otherwise, it is included in the previous field as the publishing author or editor.

Level 2—Collection Data

Because there may be multiple type collections (e.g., syntypes) for any taxon, the collection data fields may repeat as a set any number of times. The following set of fields is recorded for each collection, insofar as the data exist and are available.

COLLECTOR(S).—The names of all collectors of the type collection being registered are recorded in this field exactly as author names are formatted in the "Author(s)" field. The name of a collecting expedition may be recorded here when individual collectors cannot be determined. The Type Register project is developing its own authority file for collectors, but meanwhile the following biographical indices, in addition to those already mentioned under the "Author(s)" field, are being used as standard references: "*Index Herbariorum*, Part II: Collectors" (Lanjouw and Stafleu, 1954, 1957; Chaudhri et al., 1972—completed for letters A to L); "Index to Principal Collections Represented in

the U. S. National Herbarium" (compiled by U. S. National Herbarium staff for internal use, 1965).

COLLECTION NUMBER.—Ordinarily this will be the collector's own number, but when there is no trustworthy means of determining his number, or if he had none, a serial collecting number assigned by an institution or expedition may be recorded instead. The field is regarded pragmatically as the place for a number, any number, that has been associated with the collection and which, when combined with the name(s) entered in the "(Collector(s))" field, normally will form a unique reference to the collection. If a distinction can be made between the number of the collector and the number of his expedition or institution, then the name of the expedition or institution assigning the serial number should be placed in the "Collector(s)" field unless one or more collectors' names already have been entered there; otherwise, this name should be prefixed to the collection number to make clear that the number is not the collector's own. When there is absolute evidence that the collection never has been numbered in any series, then the abbreviation *S.N.* (*sine numero*), meaning "without number," should be entered in this field. If on the other hand the number is merely unknown or there is doubt about the existence of a number, then dashes (- -) should be entered in the field.

COLLECTION DATE(S).—Collection date is recorded just as accurately as it is known, and if necessary two dates or a range of dates are given. All dates, whether single or in ranges, take the form: 28 Sep 1928. On the data form, dashes should be entered to indicate that the collection date is unknown, and the abbreviation *S.D.* (*sine dato*) should be used to indicate that the collection is known to be without a collection date. In using the latter designation, the compiler should be absolutely certain that the collection is undatable; otherwise, he should use dashes (- -).

GEOGRAPHIC DATA FIELDS.—Four geographic fields are used to pinpoint hierarchically the collecting locality: (1) country; (2) state, province, department, or equivalent; (3) county or equivalent; (4) locality. The specific place is recorded in the fourth or lowest field more or less in the terms of local reference given by the collector himself and should include a town, post office, or other place name that can be found in an atlas. The locality terms in the fourth field are ordered from the largest to

the smallest units, and unimportant words are omitted; latitude and longitude, if given, are placed last in this field; and ecological terms, except where required to clarify the geographic location, are omitted. Because locality data from the specimen and the original description often are merged into a single telegraphic statement, the reference given in this fourth field *cannot* be assumed to be a direct quotation. Every effort is made, however, to stay close to the words of the original collector and/or author of the description, and substantive additions or interpolations by the compiler or editor are indicated appropriately. It is important to the editor, therefore, that compilers set apart clearly their own comments from the original information. Quotation marks are used only when the context requires that the exact original words be identified, as, for example, when some part of the locality statement is so archaic, confusing, or general as to appear to contradict the rest of the geographic information.

The three, higher level geographic data fields are used to place the locality in its proper geopolitical hierarchy. Whereas the vocabulary used in the "Locality" field is standardized for sorting purposes but not controlled, the vocabulary used in these three fields is controlled as well as standardized for purposes of search and retrieval. Insofar as possible, current official political units are used in all three fields so as to avoid overlapping and inconsistent terminology. As the term "geopolitical" implies, concessions to age-old geographic designations, as in the case of certain islands, are made in a few instances, and "country" is not always an independent political unit in the strictest or most modern sense. Such changes are made only within the structure of the controlled vocabulary, however, as explained below. Island names present a particular problem, because often they have long been used in the biogeographic literature but do not fit into a consistent geopolitical hierarchy (e.g., Borneo, Madagascar). Various stratagems, mostly involving comments in the "Locality" field, have been devised to cope with the problem of identifying well-known biogeographic areas within the file structure of the Type Register. If the name used in any of the three higher level fields is not obviously equivalent to the name used originally by the collector, then his original designation is included parenthetically

with appropriate annotation at the end of the "Locality" field.

All available atlases and gazetteers are used as standard references, the most valuable being *The Columbia Lippincott Gazetteer of the World* (Seltzer, 1962) and the desk-top *Webster's New Geographical Dictionary* (1972). The latter, to the extent that it covers the geographic units and problems encountered, has taken on the force virtually of an authority for geographic standardization. The authority adopted for the system of classification and names of the world's countries and equivalent political units is the National Bureau of Standards' *Federal Information Processing Standards Publication (FIPS Pub) 10: Countries, Dependencies and Areas of Special Sovereignty* (1970). With slight modifications for the purposes of Type Register, this publication is used to control the vocabulary used in the first or "Country" field. Any new name must be fitted into this system before it can be used.

From the data-processing point of view, the purpose of the geographic information is to make search and retrieval possible at least by country and state or province. Thus if the first two fields are left blank or if the names are not carefully controlled and standardized the retrieval aim is clearly thwarted. Collaborators should make every effort to provide data in all four geographic fields, but the most important ones are the first, second, and fourth.

Level 3—Specimen Data

Because there may be multiple type specimens (e.g., isotypes) in any type collection, the specimen data fields may repeat as a set any number of times. Ordinarily, an institution will be represented by a single type specimen under a given collection, but there is no limit to the number of specimens that may be registered per collection as long as each specimen is uniquely identified. In practice, this means that two or more specimens will be cited for the same institution *only* if they have different herbarium sheet numbers or represent different kinds of types. The data fields in the specimen citation are: Herbarium Abbreviation/Herbarium Sheet Number/Kind of Type/ Data Source Code. The typical specimen citation takes this form: US 1727345 HOLOTYPE CF.

HERBARIUM ABBREVIATION.—The standard international abbreviations established in the fifth edition of *"Index Herbariorum, Part I: The Herbaria of the World"* (Lanjouw and Stafleu, 1964) are used to designate the herbaria.

HERBARIUM SHEET NUMBER.—Many herbaria stamp a serial number on every sheet to which an herbarium specimen is attached, and that number is entered into this field. The field may be left blank when the sheet in question lacks a serial number. Because a sheet number represents the single most effective and reliable means of uniquely identifying a specimen, any collaborating herbarium which presently does not number its sheets is strongly urged to number the sheets of type specimens as the data are compiled for the Type Register. From the standpoint of the Register, the serial number is a completely arbitrary datum and need not belong to any general numbering system within the collaborating institution provided that it is part of a unique series. Whenever there is any choice on the matter, a totally numerical series, not a mixed alphabetical/numerical (alphanumeric) series, should be used, to facilitate proper numerical sorting by machine.

KIND OF TYPE.—This small field represents the purpose of the Type Register and is certain to evoke more discussion and controversy than any other data field in the unit record. For this reason it is vital that every user of the *Carex* Catalog or any other part of the Register understand from the outset the limitations of the data recorded in the "Kind of Type" field.

As emphasized repeatedly, the *initial* aim of the Type Register project is to record the facts just as they exist in the presently available sources so as to put before the taxonomic user community the greatest amount of information in the shortest possible time, leaving until later stages the objective of methodical, authoritative verification and validation. Once comparative data on type specimens are available group by taxonomic group on a large scale, the specialists themselves, who alone are truly qualified to render authoritative decisions on matters of nomenclature and typification, can help enormously to refine the Type Register data base through feedback arising from actual use of the file. The consequence of this register-now-validate-later approach is seen most often in the imprecise if not incorrect terms by which the different kinds

of types are designated. Because the nomenclatural rules have changed through the years and the well-developed modern terminology is of relatively recent origin, it is natural that types have not been designated according to any consistent standards through the years.

When a type specimen is first registered, its typification is designated by whatever term is indicated in the data source, which usually is a secondary source (card file, specimen file, monograph), unless there is firm evidence to indicate otherwise. Thus any type designation, whether legal or illegal by present nomenclatural rules, may appear in the Type Register.

At the United States National Herbarium, it was customary for many years to designate two basic categories in the segregated collection of type specimens: "type" and "type collection." Usually, "type" has meant what would now be called "holotype," while "type collection" has embraced syntypes, isotypes, and even paratypes according to present terminology. "Types" often prove not to be holotypes, however, and it would be very wrong to draw simple equations between the older and newer terms. The collection of type specimens at the New York Botanical Garden provides another example of the problems with archaic terminology. Here the categories "type" and "cotype" were used for many years, and now "type" often but certainly not always translates to "holotype," while "cotype" may designate any of the kinds of types masquerading under "type collection" at the US.

The authority for designation of kind of type is the *ICBN*. An auxiliary, highly authoritative standard reference is "An Annotated Glossary of Botanical Nomenclature," by McVaugh et al. (1968). Whenever the original specimens and literature can be examined and the kind of type validated in accordance with the rules, proper terminology is used. By this terminology, the Register is designed to include primarily *holotypes*, *isotypes*, *syntypes*, and *isosyntypes*. As explained earlier, the present file structure is not designed to handle lectotypes and neotypes (or isolectotypes and isoneotypes), although these are entered sometimes by using the fourth geographic field ("Locality") as a remarks field for the second bibliographic citation. Paratypes are excluded unless other, higher order types cannot be located and there is reason to believe that the paratypes will become important later

for purposes of lectotypification. Fragments of holotypes, isotypes, or syntypes may be included at the discretion of the editor (see under "Scope of Register").

When a holotype has not been designated, as in all the older literature, one usually is faced with a "syntype situation," which often is difficult to resolve precisely on the basis of the *ICBN*'s terminology. A *syntype*, according to the *ICBN* (Article 7, Note 3), is "any one of two or more specimens cited by the author when no holotype was designated, or any one of two or more specimens simultaneously designated as types," and an *isosyntype* is a duplicate of a syntype (see "Guide for the Determination of Types" in the *ICBN*). "Duplicate" in this context is defined as "part of a single gathering made by a collector at one time." In other words, a "duplicate" is one of two or more specimens constituting a single "collection," as this term ordinarily is used by plant taxonomists and is being used in the context of the Type Register.

The distinction between syntype and isosyntype hinges on such relatively subjective criteria as "specimen citation" and whether or not the original author had the specimens in hand (cf. definitions of McVaugh et al., 1968), which are matters for specialists to determine. The older literature, where the problem of syntypes arises, is well known to be less than precise in the manner of citing specimens. The editorial staff of the Type Register must restrict its interpretations to the letter of the *ICBN*, and for the most part such fine distinctions as between syntype and isosyntype necessarily are deferred for the proper specialists to make at a later time. To do otherwise would be to assume the specialist's role and responsibility and to introduce false precision at this stage. Accordingly, the term syntype is used for both syntypes and isosyntypes except in the rare cases where the evidence for the isosyntype designation is clear and convincing.

A final point on the use of the term syntype concerns the distinction between single collections and multiple collections. Throughout the older literature there are numerous cases where a single collection has been designated as the type collection, either explicitly or implicitly by virtue of being the only collection cited, even though a holotype has not been set apart. Many specialists would single out a presumptive holotype in these cases on the basis of the specimen(s) which the original author

is presumed to have examined firsthand, but the Type Register editors cannot and should not make authoritative selections in such cases and must regard them all as syntypes. The *ICBN* does not seem to provide terms for distinguishing this common syntype situation from the other common syntype situations in which two or more type collections are designated simultaneously. Because it is useful to know whether one or more than one type collection is cited, in the Type Register project the term "type collection" has been given a proper meaning for the purpose of distinguishing these two syntype situations. *Type collection*, in this proper sense, designates a specimen from a *single* type collection, while "syntype" is reserved for designating a specimen from any one of two or more simultaneously designated type collections.

The catchall term *type material* is used to designate any specimen presumed for some reason to be a type but for which there is no basis at the time of data input to assign a more precise classification.

Many situations arise in the course of compiling and editing data for the Type Register in which it would be useful to have a collective term for designating a collection as a counterpart to the singular term given in the *ICBN* for the specimen. In fact, the terms "holotype collection" and "syntype collection" often are used informally within the project as collective counterparts to the singular terms holotype/isotype and syntype/isosyntype.

DATA SOURCE CODE.—Source of data is indicated according to a classification of source categories, by appending the appropriate code at the end of the specimen citation. It is impossible to document in detail the source of every datum, and any categorization of sources is certain to have many imperfections. The present classification is only a rough first approximation of the kind of documentation needed, but presumably it is a strike in the right direction. It is drawn up largely from the point of view of the central staff and their internal Smithsonian operation, and other categories will have to be added as other institutions join in the effort. Probably codes or numbers will be assigned to individual contributors in the future in the manner of *Index Nominum Genericorum*. It should be noted that this is more than a classification of sources; up to a point it also is a classification of degree of verification/validation. Obviously, a record based on examination of the original publication and the original

specimen is likely to be more reliable than a record based solely on secondary sources. Following is the classification of data source codes:

- OS** Original publication and type Specimen examined by person compiling data for Register.
- OP** Original Publication examined by person compiling data for Register, but type specimen not seen; supplementary information about the specimen, if any, derived from secondary source(s).
- TS** Type Specimen examined by person compiling data for Register, but original publication not seen; citation and other publication data, if any, derived from secondary source(s), including standard indices (*Index Kewensis*, *Gray Herbarium Index*), monographs and revisions, annotations on specimen sheet, card files, original descriptions removed from context of publication without exact citation and necessary prefatory matter, and the Type Register catalog itself.
- MG** Data derived from most recent MonoGraph of taxonomic group in question without reference to any other source(s) of information.
- SS** Data derived entirely from Secondary Sources.
- CF** Data transcribed directly from a card in the Card File of the type collection of the U. S. National Herbarium without verification against the original publication or type specimen.
- CO** Data from US Card file verified by examination of Original publication.
- CS** Data from US Card file verified by examination of type Specimen(s).
- CM** Data from US Card file verified or supplemented by consulting latest Monograph of taxonomic group in question.
- UK** Source of data UnKnown.

PROCESSING SYSTEM

The first step is to convert the data to machine-readable form, i.e., to "automate" or "capture" the data, so that they can be processed by computer. No data conversion (automation, capture) system is perfect, and none is capable of handling all applications equally well (Shetler, 1972). Several methods and media have been tried thus far in the Type Register project in an effort to find the data conversion system best suited to this data-processing application. In general, the aim is to use the system that will get the data into the computer with the least amount of error and effort. Because the development of data conversion devices and procedures continues to evolve rapidly, a flexible approach has been taken; the data conversion system is kept as independent as possible from the rest of the processing system so that a new conversion system can be

adopted at any time with minimal impact on the overall Type Register operation.

The following data conversion systems have been used in the chronological order given:

PAPER TAPE SYSTEM.—Data were mechanically encoded on paper tape with a tape-punching typewriter. The tapes then were read by the computer which converted the holes in the paper tape (i.e., mechanical codes) to electronic codes on magnetic tape and thus transferred the machine-readable data from the medium of capture to the medium of computer processing. This system was used for the duration of the pilot project, and several thousand records, a third of the present file, were captured with it. During the pilot phase, while paper tape was being used, corrections to the machine file were made by means of the standard 80-column punch card.

ON-LINE SYSTEM.—With a typewriter terminal, data were entered via telephone directly on disk storage of a remote time-sharing computer under the on-line control of a sophisticated text-editing program package. This text-editing software permitted the terminal operator to direct the computer in making any of a whole series of deletions, changes, and additions during the input process so that maximum editorial accuracy could be achieved in the machine-readable data base immediately, before it was output onto magnetic tape for subsequent processing by the information retrieval system.

OPTICAL SCANNING SYSTEM.—Data were typed on standard forms with an ordinary 10-pitch IBM Selectric Typewriter equipped with a head having a special optical scanning font. Completed forms were scanned by an optical character reader (OCR) which encoded the data directly on magnetic tape for further computer processing.

MAGNETIC TAPE SYSTEM.—In the system currently being used, a typewriter encodes data electronically on a magnetic cartridge which is compatible with computer tape. The typewriter unit also serves as a communication terminal to transmit the data captured via telephone directly to the computer, where the data are transferred to disk or tape for further processing. Processing programs can be controlled from this same remote terminal. Of the several data conversion systems used, this one seems to offer the best compromise of advantages and disadvantages in the context of the operation as a whole.

COMPUTER PROCESSING SYSTEM.—During the pilot phase of the Type Register project, this system consisted of a set of specially written COBOL programs, designed to run on the Smithsonian's Honeywell 1250 machine, to create and maintain a machine file, and to account for collaborating institutions to which data-collection cards were sent or from which data were received. It was not designed as an information retrieval system in the strict sense, and in terms of output the system was capable chiefly of producing catalogs, either in book or card form. The pilot system proved with use to be highly specialized with too few capabilities and serious weaknesses in file structure such as inability to handle syntypes. It served the purpose of a pilot system, however, to get a file started and thereby define through experience the problems to be solved in the operational system.

After the pilot phase, the specialized COBOL programs were abandoned, and the processing system was completely redesigned around the commercially available, IBM-supported program package known as the "Generalized Information System" (GIS), which runs on the larger models of IBM's System/360 and System/370. This generalized software performs all the normal functions of creating, maintaining, and querying files and of generating reports. It is an information retrieval system, in the proper sense, with the full capability to search, select, and print answers to specific queries on demand in addition to the capability for producing various types of tabulations, tallies, and catalogs. A COBOL preprocessing program ("pre-processor") and a COBOL concatenating program, by which, respectively, the data are prepared for processing by GIS and the data are joined field by field into publishable paragraph output after processing by GIS, form a part of the total operational system. GIS runs only on IBM equipment and is offered by several computer service bureaus in the Washington, D.C., area with IBM machines. Type Register processing with this system so far has been carried out successfully at several different service bureaus, and the project basically is independent of the computing center.

One of the most important initial tasks in developing the Type Register is to build a file of sufficient size to make reliable studies concerning such matters as record comprehensiveness, record format, field format, need for authority files, and

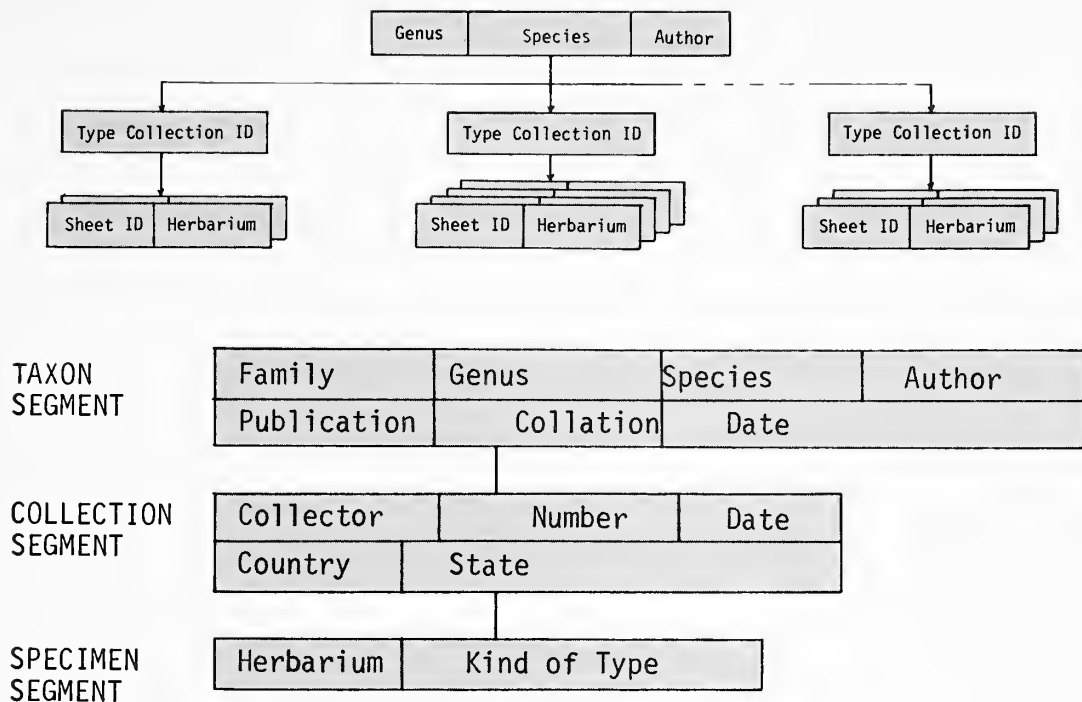


FIGURE 3.—Two oversimplified schematic representations of the three-level record structure in the Botanical Type Specimen Register (from Meadow, 1973a,b).

report types and formats. This requires a flexible information processing system that allows for data to be restructured, reports to be reformatted, tallies to be made, and edits and mass updates to be made without reprogramming. From the output standpoint, it must be possible to select records according to the content of any data field, to relate records to each other on the basis of selected fields, and to sort and format selected fields as desired. GIS affords all these capabilities.

The FNA program is using GIS, and it was for this reason particularly that the decision was made to use GIS in the Type Register project so that these botanical data bases would remain fully compatible. The rationale for using a generalized information processing system and a description of the use of GIS in the FNA program have been set forth in separate papers recently by Harriet R. Meadow (1973a, b), who is responsible for the basic design of the Type Register processing system. The two most important features of GIS, from the point of view of biological data retrieval, are its capability of handling hierarchical data structures and its capability of querying two or more files simultane-

ously for correlated data. With respect to Type Register, for example, the hierarchical feature permits subordination of two or more specimen collections to a single taxon or, in turn, two or more specimens to a single collection within a taxon. The three-level hierarchy of the Type Register is outlined in Figure 3.

The second-generation processing system for the Type Register by no means represents the ultimate system, but it does handle the vast majority of cases very well and solves the most bothersome problems encountered during the pilot phase with the specialized first-generation system. New problems have arisen, however, and with the experience gained by using the present system it will be possible to design a third-generation system in due course that will accommodate all of the special cases that continue to be troublesome, e.g., the case of a lectotype or neotype that requires a second bibliographic citation.

Statistical Summary of Type Register Contents

Following is a statistical summary of the records on the machine file as of 30 September, 1972:

No. Families	135
No. Genera	950
No. Taxa*	10,525
No. Collections	10,625
No. Specimens	13,535

*Species, subspecies, varieties, forms, and nothomorphs.

The figures show that the number of collections averages just slightly more than 1/taxon, while the number of specimens averages about 1.3/taxon. The number of specimens will grow rapidly relative to the number of taxa as additional herbaria register their type holdings of taxa already in the file.

This is a tally largely of records input from the type collection of the U. S. National Herbarium (US); i.e., the vast majority of the families and genera are represented only by taxa, collections, and specimens in the US type collection. None of the 135 families is present solely on the basis of types registered from another herbarium, which is to say that at least one taxon in the US collection is registered under every family. The inclusion of a family does not mean, however, that all US types belonging to that family have been recorded. Quite the contrary, the project has only begun, and, as indicated earlier, it now is proceeding alphabetically by genus and is still in the letter "C." This means that for the vast majority of families only genera starting with "A" or "B" are recorded thus far. If a genus is present, however, then all type material in the US collection belonging to that genus is registered. In other words, the file is complete to the genus level with respect to taxa, collections, and specimens in the US type collection.

Before the alphabetical approach was started, registration of US types was essentially completed for several families, and in each case the types of one or more other herbaria also had been recorded. Following is a list of these completed families, showing for each the number of genera, taxa, and specimens registered and the abbreviations of the herbaria for which the file is relatively complete:

Chrysobalanaceae (12 genera, 216 taxa, 1,110 specimens), many herbaria
Dichapetalaceae (7 genera, 43 taxa, 153 specimens), many herbaria
Lamiaceae (84 genera, 1,234 taxa, 1,851 specimens), LA, MO, NY, US
Scrophulariaceae (85 genera, 943 taxa, 1,075 specimens), US
Violaceae (17 genera, 232 taxa, 321 specimens), NY, US

The data for the Chrysobalanaceae and Dichapetalaceae were provided by Ghilleen T. Prance of the New York Botanical Garden from his manuscripts

of family monographs for the *Flora Neotropica* series. All type specimens seen by him in the course of his research on these families as of June 1970 are recorded, which means that many herbaria are represented. With respect to these two families, the Type Register is relatively "complete" in the comprehensive, monographic sense in that the file cites the significant types, regardless of where they are on deposit, as they will be cited in the published monograph. (The monographs of these families have since appeared—see Prance 1972a, b.) At the same time the coverage may not be as thorough for any individual herbarium as in the case of the other three families—Lamiaceae, Scrophulariaceae, Violaceae—for which the data were compiled directly from type collections or card files in the herbaria indicated. Within the Scrophulariaceae, contributions to the genus *Mimulus* have been registered by more than a dozen herbaria (CAN, COLO, DAO, F, GH, JEPS, MICH, NY, OSC, PH, UC, LA, US, WIS) as a result of Hale's experiment (see "Introduction"), and there are miscellaneous other contributions to this family recorded from MO, NY, and a few other herbaria.

Apart from the families listed and the genus *Carex*, for which the catalog is appended, several other groups have been completed in some sense. Nearly half of the US types of Asteraceae (Compositae) had been recorded when the switch from a systematic to an alphabetical approach was made, and the file for this family contained as of 30 September 1972 the following: 255 genera, 2,600 taxa, and 2,650 specimens. Several important genera of the Brassicaceae (Cruciferae) have been completed at least for the US, and the tallies for these genera as of 30 September 1972 were:

<i>Arabis</i> (97 taxa, 106 specimens), US
<i>Draba</i> (119 taxa, 195 specimens), NY, US
<i>Lepidium</i> (29 taxa, 32 specimens), US
<i>Lesquerella</i> (38 taxa, 43 specimens), US
<i>Thlaspi</i> (15 taxa, 59 specimens), F, GH, MO, NY, RM, S, UC, US, WTU

The data for *Thlaspi* were provided by Patricia Kern Holmgren (1971) of the New York Botanical Garden from her revision of the genus, during which she saw types from the above-indicated ten herbaria. She also provided the data from NY for the genus *Draba*.

Finally, John T. Mickel of the New York Botanical Garden provided significant type data on

the genus *Anemia* subgenus *Coptophyllum* (Schizaeaceae) and its three segregate genera *Ancimiaebo-trys*, *Coptophyllum*, and *Trochopteris* from his monograph of the *Anemia* (Mickel, 1962), and the statistics are: 4 genera, 35 taxa, 81 specimens.

Use of Type Register

Some of the main uses of the Type Register will be obvious from the discussion in the foregoing sections if not from the concept of the Register itself, and other uses will become apparent through study of the *Carex* Catalog and its indices. It should be emphasized that a catalog of this type with the same or other types of indices can be produced for any taxonomic group, large or small, presently registered, although the data have not been edited to the same high degree in any other group thus far. The *Carex* Catalog and each of its indices represent outputs to particular queries. Many other types of queries are possible, and the amount of output depends on the scope of the query and the depth and comprehensiveness of the data base at the time of querying. For example, the request "Print all records of ferns," would yield a relatively small printout at this stage, because only a few fern types are registered, but eventually such a request could yield an overwhelming printout. In querying the file, the user always must exercise discretion in framing his requests, and to do this he must have a reasonable knowledge of the limits of the machine file beforehand or be guided by some-

one who is familiar with the file. Otherwise he will make meaningless or impractical requests.

By request the file will be queried at cost for anyone. Any kind of query is welcome, and guidance can be provided in framing queries. It is important at this stage to have feedback from potential users in the form of requests for file queries so that all needs are taken into consideration as the Type Register system undergoes further test and refinement, particularly with respect to report formats. Persons wishing to make extensive use of the Register should plan to spend time in Washington, D.C., working with the project staff at the Smithsonian. The costs and other requirements of such an undertaking should be worked out in advance by consultation with the staff.

The Type Register can be queried or sorted by taxonomic name, author, book or journal title, year of publication, collector, collector's number, date of collection, country, state or province, county, herbarium, and kind of type or any combination of these. With a query or sort on any of these fields can be printed other selected fields from the same records, as illustrated by the *Carex* Catalog, which is sorted by taxonomic name, and its five indices, which are sorted in the lead field by author, collector, country, publication date, and herbarium, respectively.

With the cooperation of specialists willing to devote time to editing of groups of interest to themselves, other catalogs can be published. **Anyone is invited to propose collaborations in publishing from the Type Register.**

A Catalog of the Genus *Carex* (Cyperaceae)

STANWYN G. SHETLER (*Editor*); MARY JANE PETRINI, CONSTANCE GRAHAM CARLEY, M. J. HARVEY, LARRY E. MORSE (*Assistant Editors*); THOMAS E. KOPFLER (*Programmer*); AND COLLABORATORS

Contributing Institutions

The ten American herbaria that have collaborated in the *Carex* project to provide data on their respective collections of types in this genus are listed here in descending order of number of specimens registered. The name of each herbarium is preceded by its standard international abbreviation as established in the fifth edition of "*Index Herbariorum*, Part I, The Herbaria of the World" (Lanjouw and Stafleu 1964).

NY	Herbarium, New York Botanical Garden, Bronx Park, New York
GH	Gray Herbarium, Harvard University, Cambridge, Massachusetts
US	United States National Herbarium, Smithsonian Institution, Washington, D. C.
CAS	Herbarium, California Academy of Sciences, San Francisco, California
F	John G. Searle Herbarium, Field Museum of Natural History, Chicago, Illinois
MO	Herbarium, Missouri Botanical Garden, St. Louis, Missouri
DS	Dudley Herbarium, Stanford University, Stanford, California
UC	Herbarium, University of California, Berkeley, California
A	Herbarium, Arnold Arboretum, Harvard University, Cambridge, Massachusetts
JEPS	Jepson Herbarium, University of California, Berkeley, California

Each institution has contributed to the *Carex* Catalog voluntarily and with little or no outside financial support for work on the Type Register. The FNA program has made use of the Type Register as a pilot project to evaluate various ways of collecting, editing, capturing, and processing hierarchically structured taxon/collection/specimen data. In the course of this work, therefore, small sums of "seed" money were allocated from FNA funds to support data-gathering for the *Carex* project at sev-

eral of the above institutions. The *Carex* project was undertaken in the first place at the suggestion of the FNA Editorial Committee. The Committee saw in *Carex* a good model of a large genus with a preponderance of North American species which presents a full gamut of nomenclatural and taxonomic problems to cope with in an information system. (The *Carex* project, insofar as FNA was concerned, went beyond the Type Register. While the data were being gathered for the Register, other morphological data were also being assembled by FNA—unpublished *Carex* data on Sections *Montanae* and *Ovales* collected by A. J. Gilmartin and M. B. Moore—to test the matrix techniques of Morse, 1971, for computer-assisted identification and key construction.) Once the *Carex* Catalog was established on the basis of several large herbaria, other major herbaria were able to add their data with a surprisingly low investment of man-hours. The Field Museum, for example, reported just under 35 man-hours—less than a man-week—to compile its data on *Carex* types, at a cost of under \$175 for technical labor, but by the time the Museum came into the picture it had the benefit of a basic catalog already including the contributions of A, GH, MO, NY, and US.

Each institution determined its own extent of coverage, and without exception each tried to include all types in the general herbarium which already had been segregated or otherwise identified or which could be identified quickly on the basis of the available computer printout. At the same time, none of the herbaria makes any claim to absolute completeness or thoroughness relative to the number of types in the herbarium, including those still buried in the general collection. A pragmatic philosophy prevailed, with each herbarium doing the best it could under the constraints of its own local

circumstances. It might be assumed in general that the coverage is more complete for the herbaria like NY and US which had separate type collections in the first place and had long-established traditions of segregating type specimens from the main herbarium as they are recognized, than for the herbaria without segregated types, but even this assumption can be questioned. At CAS, a folder-by-folder search of *Carex* specimens in the herbarium with printout in hand turned up as many unrecognized type specimens as had previously been recognized and segregated into the type collection. A similar search of North American folders at F resulted likewise in doubling the number of recognized types. If one pass through the herbarium can double the number of types, it certainly cannot be concluded that all types have now been found. From a purely curatorial point of view, therefore, the *Carex* project was very useful in these instances because, as a result, the collection of recognized types was increased by 100 percent.

Clearly it would be unfair to judge the relative size or value of the type collection or even just the *Carex* type collection of any of these ten herbaria on the basis of the present catalog. Much more extensive development of the Type Register is required before such judgment will be warranted. At the same time, the present ranking is almost predictable. An herbarium that is the major depository for the types of a monographer naturally is expected to have a disproportionate number of types in the group(s) on which the monographer worked. The extensive work of monographer K. K. Mackenzie (1931–35, "Cyperaceae-Cariceae," in *North American Flora*) clearly might be expected, therefore, to have put NY in the first position, and no one will be surprised to find GH and US close behind. Comparison of the NY and US type collections of *Carex* provides a good example of the influence of a monographer on a type collection. Together, NY and US have type specimens for over 400 taxa. Of these taxa, half are represented by type specimens only at NY, while about 40 are represented only at US. Thus, NY has five times more "unique" *Carex* taxa in the Type Register than US. By contrast comparisons in some other groups show NY and US to have about an equal number of "unique" representatives in the Register. CAS is expected to be strong in types of western taxa. In addition, John Thomas has pointed

out (personal correspondence) that CAS has a complete set of H. P. Sartwell's *Carices Americanae Septentrionalis*, Part 1 (nos. 1–70, 1848) and Part 2 (nos. 71–143, 1850), and a "rather good set, but not complete," of S. T. Olney's *Carices Boreali Americanae*, distributed in 1870 and 1871. According to Thomas, many CAS specimens bear the annotations of J. W. Stacey, who was connected with CAS and published on western sedges.

Thomas points out these additional interesting facts about the other herbaria in the San Francisco Bay area. Mackenzie, in the course of doing the treatment of *Carex* for Abrams' *An Illustrated Flora of the Pacific States* (Mackenzie, 1923), determined all the *Carex* specimens at DS from the Pacific States and a number from other regions sometime prior to 1920. The Parish Herbarium, one of the best early collections of southern California plants, is housed at DS. The I. W. Clokey Herbarium, including his sedge types, are at UC, and of course W. L. Jepson's material is at JEPS.

In general, every curator who collaborated in the *Carex* project felt that his effort had beneficial consequences in the herbarium, and there was a nearly unanimous opinion that the results were well worth the effort from the curatorial standpoint alone.

Data-Collection Procedure

The *Carex* Catalog was initiated with data from the US and MO type collections. For the US, records were converted from the existing card file (see "Source of Data"), while the MO records were captured from data forms filled out at MO in the course of a special search of all the *Carex* type folders, which are distributed through the herbarium in association with the main collections. The special search was undertaken specifically as part of the *Carex* project of FNA.

After a common catalog of the US and MO collections was compiled, members of the Type Register staff moved their data-conversion operation to the New York Botanical Garden for two weeks, where, with the assistance of NY personnel, the NY *Carex* data were compiled and input to the system in a matter of days. The data were compiled from the specimens in the separate type col-

lection, which by and large does not include the literature citations, and supplemented with bibliographic data from reference works, primarily Mackenzie's (1931-35) monograph of *Carex*.

It should be pointed out that the type collection at NY was first segregated for security reasons during World War II, and the selection had to be done in haste under less than ideal conditions. Consequently, many nontype but historically important specimens, constituting perhaps as much as 25 percent of the total type collection, deliberately were pulled along with the known or presumptive type specimens in the process of going through the main herbarium. The person who compiled *Carex* data attempted to sort out the nontype material, and further culling was done during the editorial process. Undoubtedly some nontype material still remains in the present Catalog, although it seems unlikely that the percentage of such specimens is much if any higher for NY at this stage than for any of the other nine herbaria. In any event, it will be a simple matter to delete nontypes from the file as they are discovered and brought to the attention of the Type Register editors in the future.

Once the NY data were merged fully with the US and MO data, a union catalog was delivered to Harvard University for additions from A and GH. At Harvard, data on types of taxa already registered were annotated in the catalog, and data for taxa new to the catalog were compiled on standard forms. In general, Harvard provided only specimen data, and the bibliographic data were looked up and supplied later by the Type Register staff at the Smithsonian before annotations and new records were captured and merged with the US + MO + NY machine file.

When the annotated catalog was returned from Harvard, the A and GH annotations were transcribed to the main working catalog at the Smithsonian, and then the Harvard catalog, as annotated, was sent to the Field Museum of Natural History. Sent with the annotated catalog were photocopies of the data forms for the new taxa added by A and GH. In this way it was possible to give the collaborators at F the benefit of the new data supplied by A and GH immediately, while the capture of these new data was still in progress at the Smithsonian. As a further aid to their work, the collaborators at F were provided with an index by

collector and collector's number to the US + MO + NY catalog.

The collaborators in the San Francisco Bay area were provided with a new catalog incorporating the A and GH data along with the US, MO, and NY data, and this catalog also included an index by collector and collector's number. This catalog was annotated by them with new data from CAS, DS, JEPS, and UC on taxa already registered, and data for taxa new to the file were compiled on standard forms. The annotated catalog and completed forms then were returned to the Smithsonian Institution for input to the system.

At CAS, DS, F, JEPS, and UC the data were compiled in the first instance from the specimens in the herbarium, but in most cases the original publications also were checked when taxa new to the file were involved. Otherwise the bibliographic data were obtained from secondary sources. The original literature was checked for taxon additions without exception at F.

In summary, a round-robin procedure of sorts was used to collect the data. To the extent possible, each new collaborating institution was given the benefit of the latest cumulative catalog incorporating the contributions of previous collaborating herbaria. In this way, maximum advantage could be taken of previous herbarium and library research, and duplication of effort was kept to a minimum. Once the combined data of CAS, DS, JEPS, and UC were returned to the Smithsonian, the data-collection phase was closed out and final editing began.

Editorial Process

All entries were edited in accordance with the principles and procedures set forth in the first part, and the editors take final responsibility for the form and style and all other editorial matters of the present Catalog. To integrate new contributions into the accumulating data base, differences between supposedly identical records from different institutions constantly had to be reconciled by turning to standard references and the original literature. Whenever possible, record content was verified by checking the original publication. In the end, nearly every original description cited in the Catalog was seen at least once by the editors and in many cases several times. In many cases, furthermore, the designation of kind of type was validated

according to the *ICBN*; however, because much of the checking of original literature was done by a technical editor, untrained in the application of the type method and terminology, many of the records were verified without being validated, to use the distinction defined in an earlier section (p. 00). According to this distinction, the development of the *Carex* file of the Type Register can be said to have attained the Stage 2 "verification" level overall, with some records still at the Stage 1 "registration" level and with a substantial number of others having been "validated" more or less according to Stage 3 standards. Of course the careful scrutiny of specialists, with appropriate feedback from them, is needed over a period of years before the present *Carex* file can be said to have truly attained Stage 3 development.

While the bibliographic data could be double-checked or supplied (if not provided in the first place) by examining the original publication, the specimen data could be verified in this way only to the extent that the publications gave corroborating details. Ultimately, therefore, each contributing institution is responsible for the reliability of its own specimen data. In the case of NY, however, the editors, who assisted in the data collection itself, share responsibility for the reliability of the specimen data. In any event, citations always were checked against *Index Kewensis* and/or the *Gray Herbarium Index* if the original publications could not be examined.

Editing of this type of open-ended file, in which considerable subjective judgment is required, is a never-ending process, and a reasonable degree of thoroughness is achieved only after many editorial "passes" through the file. The editing proceeded in a series of phases and cycles in which all records were examined a field at a time, by means of *inverted listings* or indices, for consistency and accuracy, and updated printouts were obtained for another editorial round. Thus, for example, title citations were standardized in one editorial phase, while names of authors were standardized in another phase. The editorial corrections for all fields then were merged into a common working hard-copy of the file before the process of updating the machine file was begun. After one cycle of such editing was finished and the file was thought to be "clean," a new catalog and set of indices were printed out. Then a whole new cycle of editing

was begun. This iterative process continued until the editing began to yield diminishing returns and it became necessary to bring the never-ending process to a reasonable stopping point, which the present Catalog is believed to represent. In such a dynamic system, editorial perfection is relative at best, and at this stage the editors certainly make no claim to perfection in any sense of the word, although every effort has been made to be thorough and consistent.

Milestone Events

Computerized data banks are a new development in biology, and there is still much to be learned about the mechanics of creating and maintaining them. The process is all too easily underestimated, especially with respect to manpower requirements, and overly optimistic timetables are the rule. An enormous effort on the part of many individuals went into the creation of the *Carex* Catalog over a period of more than two years. During this time the tedious editorial work seemed to go on endlessly, while technical problems with the systems development and processing also came in a steady stream. The following chronology of milestones in the more than two-year process has a two-fold purpose—first, to provide a practical example of the laborious steps involved in creating a data bank, and, second, to caution against overenthusiasm and oversimplification on the part of others contemplating similar efforts. It must be stressed, however, that all during the two and one-half years other taxonomic groups were being input to the Type Register along with *Carex*, and it never was possible to work exclusively on *Carex*.

1970

January	Decision made to begin work on genus as part of FNA <i>Carex</i> project. Editing of data in US card file begun.
February	Collection of data begun at MO and first records returned to US for input. Photocopies of all <i>Carex</i> records in US card file sent to MO.
March	New data-capture procedure organized using on-line, text-editing system.
April	All US and MO records input, totaling just over 200 taxa and about 250 specimens.
May	First printout of US + MO records produced and edited, and machine file updated. Second printout produced, and copy sent to NY.

- June Second printout of US + MO records edited, and machine file updated.
Members of Type Register staff worked at NY for last two weeks during which time all NY *Carex* records (200+ taxa, 300 specimens), along with records of other groups, were input to the system on-line via telephone to computer in Washington, D.C.
First printout of new taxa added to file by NY produced.
- July Report on NY work prepared.
- August Printout of NY additions edited, and machine file updated.
First printout of US + MO + NY records produced.
- September US + MO + NY printout edited, and machine file updated.
Second printout of joint records produced, totaling 415 taxa and 544 specimens.
Decision made to publish a *Carex* catalog as the sample installment of Type Register.
- November Preliminary report formats defined for catalog and indices.
- December Use of on-line system discontinued, and paper tape system reorganized and used again.

1971

- January-May Intensive editing and updating of preliminary *Carex* Catalog (US + MO + NY) continued. OCR data-capture system inaugurated, and paper tape system phased out.
Sample catalog of 100 *Carex* records with 4 cross-indices produced and distributed to a limited cross-section of taxonomists.
- June Preliminary catalog of *Carex* displayed at botanical meetings in Edmonton, Alberta, and copies of sample of 100 records handed out.
Decision made to hold off publication of Catalog at least until GH could be included.
- July Final printout of US + MO + NY catalog generated for GH.
- August Copy of latest catalog delivered in person to Harvard University for use in compiling data from A and GH; specimen data compiled and returned to US.
Copy delivered also to NY for final prepublication check; check made and printout returned. Copy sent to MO for final prepublication check. Copy displayed at annual meeting of American Institute of Biological Sciences, Ft. Collins, Colorado.
Contributions solicited by letter from F, San Francisco Bay area herbaria.
- September F indicated willingness to contribute *Carex* records.
- October Arrangements made for F to contribute records, and necessary materials supplied, including index by collector to preliminary catalog.
Data collection begun at F.
Editing of A and GH data begun.

- Report on progress to meeting of FNA Program Council in Miami, Florida.
- November Arrangements made for CAS, DS, JEPS, and UC to contribute, and necessary materials supplied. Copy of collector index sent to MO.
Critique of sample catalog of 100 *Carex* received from F. J. Hermann.
Editing of A and GH data completed, and records input to system.
- December Data collection at F completed.
New cumulative catalog incorporating A, GH, MO, NY, and US produced, with 537 taxa, 542 collections, and 776 specimens.
Four indices in preliminary format generated. COBOL paragraphing (concatenating) program designed, written, and debugged; GIS/COBOL interface programmed and tested.

1972

- January All data returned from F to US for input.
All data returned by CAS, DS, JEPS, and UC. Limited input with magnetic cartridge system begun.
Computer program for listing and tallying taxa in Type Register tested.
Data collection phase essentially brought to close.
Sample catalog produced using COBOL concatenation program.
- February Annotations from catalog used by F and from catalog used by CAS, DS, JEPS, and UC transferred to working copy.
Editing and final data capture continued apace. COBOL concatenating program, including GIS interface, tested satisfactorily.
- March-April New cumulative catalog printed, including 600 taxa, 607 collections, and 854 specimens.
Nine indices printed for final field-by-field editing.
Writing of introductory sections of this paper begun.
- May New catalog printed, including 609 taxa, 615 collections, and 1,050 specimens.
New set of nine indices also produced.
Editing and updating of file continued.
Final prepublication edition of Catalog printed, along with indices, which included 606 taxa, 612 collections, and 1,059 specimens.
Final format of Catalog established after various tests with COBOL program.
Several types of computer paper tested.
- June Camera-ready copy of present Catalog and indices produced for Smithsonian Institution Press, including same data base as final catalog in May.
- August Manuscript and camera-ready copy of Catalog and indices sent to press.

The decision to use *Carex* for the trial publication was made in September 1970, exactly two years before the manuscript finally went to press. What is obvious from this chronology is that for every additional collaborating institution the preparation of a final catalog is delayed at least a few months. Under the best of circumstances, turn-around time between cycles of data-collecting, editing, and processing quickly add up to days, weeks, and months. Clearly, the task of creating a data base of this type is limitless ultimately, and definite bounds must be established if the dynamic process is ever to stand still long enough to yield meaningful products. Desirable as it would have been, therefore, to include many more herbaria in this Catalog, the line had to be drawn finally. If the Catalog had been closed off after the MO, NY, and US contributions, as originally planned, it would have gone to press a year earlier, in mid-1971. The addition of seven more herbaria, including several key ones, surely justifies the year's delay, but it is doubtful that further delays could be justified at this time for any other herbaria. We believe that it is vitally important now to get the concept of the Type Register across to the botanical community through the medium of the *Carex* Catalog without further delay.

Use of *Carex* Catalog

The *Carex* Catalog consists of the "Catalog of Specimens" and cross-indices to the "Catalog of Specimens" by five different fields (descriptors): (1) "Author Index," (2) "Publication-Date Index," (3) "Collector Index," (4) "Geographic Index," and (5) "Herbarium Index." (Hereafter the term "Catalog" is used for the "Catalog of Specimens" proper.) The Catalog is arranged alphabetically by taxon and includes the full unit-record for each taxon, as it is stored in the computer, except for the family and genus names, the data source codes, and several file-control dates and numbers. The family name and genus name, Cyperaceae and *Carex*, respectively, have been omitted because they are the same for all taxa and, printed at the top of each entry, would constitute unnecessary words that would tend only to hide the key words for alphabetization, the epithets. The Catalog is alphabetized, therefore, by the specific and infraspecific epithets.

The indices, in addition to providing access to the Catalog by other criteria than the taxonomic name, represent data files in their own right which may serve a user's purpose without his ever taking recourse to the main Catalog. They are independent data files because they all include the name of the taxon and one or more other fields that place the key indexing field in the context of related data. The data source code has not been included record by record because it is usually OS; furthermore, the classification of sources has been in use for only a short time and was not used throughout the development of the *Carex* Catalog (see "Data Source Code").

The Catalog provides citations of original authors and publications, data on type collections, and a list of type specimens known to exist in the ten herbaria surveyed—all subordinated to the taxonomic name. No taxa are included that are not represented by at least one specimen in at least one of the ten herbaria. The organization of the data in the paragraphed unit-entry is as follows:

SPECIFIC EPITHET/RANK/INFRA-SPECIFIC EPITHET/
AUTHOR OF NAME, CITATION OF ORIGINAL PUBLICATION. DATE OF PUBLICATION.
COUNTRY: STATE OR PROVINCE: COUNTY: LOCALITY (COMMENT IF ANY) (COLLECTOR, COLLECTOR'S NUMBER. DATE OF COLLECTION)
HERBARIUM ABBREVIATION/SHEET NUMBER/
KIND OF TYPE
HERBARIUM ABBREVIATION [etc., for additional specimen]
COUNTRY [etc., for additional collection]
HERBARIUM ABBREVIATION [etc.]

The five indices are all cross-referenced to the Catalog by means of the specific epithet instead of a page or record number because the unit records in the Catalog are alphabetical by epithet, allowing for fast look-up. Space did not permit printing infraspecific epithets in four of the indices; therefore, the specific epithet is prefixed by an asterisk (*) if the record being cross-referenced is not the species itself but one of its infraspecific taxa. This device should permit the user to get to the desired entry almost as quickly as if the infraspecific epithet had been printed, as in the "Herbarium Index." Content and format are more or less self-evident in each of the indices. **It should be emphasized that these are only five of an almost infinite number of possible indices. Furthermore, they all were generated directly from the exact same data base from which**

the Catalog itself was produced and have identical data wherever content overlaps.

The purpose of the "Author Index" is to point to all taxa in the Catalog described by a particular author or combination of authors, and, therefore, the Index is alphabetized primarily by author and secondarily by specific epithet. Combinations of authors are alphabetized as combinations, not as individual authors, owing to present system limitations. A person interested in a particular taxon described by a particular author or author combination can learn quickly from the Index whether there is an entry in the Catalog for this taxon and then go to it. Persons wishing to study an author's descriptions chronologically, by year of publication, would want to have this Index resequenced with the date rather than the epithet being the secondary sort-key.

The primary sort-key of the "Publication-Date Index" is the year of publication, from the oldest to the youngest, the actual range being from 1803 to 1971. Within each year the secondary sort-key is the specific epithet, which references an entry in the Catalog. This Index should be useful to those who are interested in nomenclatural priority in the genus or in tracing the historical development of knowledge about *Carex*. By itself, the Index, which includes the name of the author or author combination, is a chronological summary of the botanists who have described species in the genus as registered in the Catalog.

The "Collector Index" is in effect a list by collector of collections cited in the Catalog and provides a convenient means of checking any herbarium for type material of taxa recorded thus far in the *Carex* file of the Type Register. Under the name of each collector or combination of collectors are listed the numbers and dates of all collections in the Catalog, cross-referenced by the specific epithets. The name is the primary sort-key, and the specific epithet is the secondary sort-key. A variation of this Index would include a list of all herbaria in which the collector's type specimens are deposited. In other words, the kind of guide to the location of types that A. S. Hitchcock and his colleagues were trying to compile directly in the 1930s (see "Introduction") can be produced as a by-product of the Type Register data base. Some interesting observations can be made by compar-

ing the "Collector Index" with the "Author Index." It becomes clear at once, for example, that while some authors collected almost as many new taxa as they described, others described many more than they collected. Further examination indicates that this difference may reflect the difference between a floristic taxonomist like M. L. Fernald, who tended to describe his own species, and a monographic worker like K. K. Mackenzie, who described taxa from among specimens of many collectors amassed for a study of the genus.

The "Geographic Index" provides access to the collections of the Catalog primarily by country of origin and secondarily by state, province, or equivalent. The specific epithet, which is the cross-reference to the Catalog, is the tertiary sort-key. The value of this Index will be obvious at once to floristic workers who wish to know which taxa in their region are typified by specimens collected within the region, e.g., within the State of California.

The "Herbarium Index," alphabetized in the first instance by institution, lists alphabetically by specific and infraspecific epithets under each of the ten institutions the taxa in the Catalog for which they hold type specimens. The herbarium sheet number, if there is one, and the kind of type are listed also. The sheet number is the tertiary sort-key. Many of the type designations have not been validated, and the problems of validating kind of type have been discussed at length earlier in this paper (pp. 8 and 19-21). For this reason many of the type specimens registered still carry the original designation of the herbarium submitting the data.

The following informal or archaic terms, which appear in the Catalog and in the "Herbarium Index" but which are not sanctioned by the *ICBN*, require brief definition of their meaning or apparent meaning in the Catalog. It should be pointed out, however, that the presence of a correct term (e.g., holotype, isotype) is no guarantee that it has been used correctly. A large number of the designations have been validated, and where the terminology seems to be used consistently within a collection, e.g., where one holotype and one or more isotypes are indicated, it can be assumed that the designations were validated.

<i>cotype</i>	Presumptive syntype or isosyntype, but may be isotype or paratype, if a type at all.
<i>type</i>	Presumptive holotype, but may be isotype, syntype, isosyntype, or paratype, if a type at all.
<i>type collection</i>	Term used in a proper sense for a specimen of a single collection cited by original author without designating a holotype—in this sense, a syntype or isosyntype according to <i>ICBN</i> (see pp. 19–21); otherwise term flags a presumptive syntype, isosyntype, paratype, or even isotype, if a type at all.
<i>type fragment</i>	Presumably fragment of the holotype, but may be fragment of isotype, syntype, isosyntype, paratype, or other kind of type, if of type at all.
<i>type material</i>	Presumptive type specimen of some kind—catchall term.

The Catalog and Indices were printed by computer directly from the data base, and not a single change has been made. What is presented here is *exactly* what was stored on the machine file as of 16 June 1972, with the exception of punctuation between fields which may have been added in the process of concatenation. Because the system provided only for printing in upper case letters, possibilities for variation of typography were limited. **Boldfacing** by overprinting the same words two or more times was used for the specific and infraspecific epithets, and in the process it was necessary also to boldface rank designators connecting epithets. Thus the taxon names stand out from the rest of the text and facilitate searching the Catalog. Insofar as practical, the standard conventions of punctuation in nomenclatural literature were used.

Errata

Several errors were detected in the Catalog after the camera-ready copy had been produced. By record number in the Catalog, these are:

No. 2. **ABLATA** BAILEY, L. H. The citation following the author's name is to the place where the neotype is designated, because the original publication did not designate a type specimen, and the citation of Bailey's original publication is cited as a parenthetical remark at the end of the geographic locality. To be consistent with the rest of the Catalog, however, where the citation after the author is *always* the citation of the original publication, the editors should have reversed the two citations in this record. As a result of this editorial error, Bailey in the "Author Index" and "Publication-Date Index" appears to have described *C. ablata* in 1935, when Mackenzie designated the neotype, rather than in 1888. This error does point up the problem of dealing with neotypes, however, and a certain logic can be advanced for either way of handling the two citations.

No. 99. **CHIHUAHUAENSIS**. Spell **CHIHUAHUENSIS**, omitting second "A."

No. 418. **PIRCHINCHENSIS**. Spell **PICHINCHENSIS**, omitting "R."

No. 424. **PLUVICA**. Spell **PLUVIA**, omitting "C."

No. 446. **PURPUREOVAGINATA**. Spell **PURPUREOVAGINATA**, inserting hyphen.

No. 448. **PYCNOTHYSOS**. Spell **PYCNOTHYRSOS**, inserting "R."

No. 544. **TENERA VAR. RICHII** FERNALD, M. L. At the end of the geographic locality, **MIDDLESEX FALLS** should read **MIDDLESEX FELS**.

No. 549. **TERRAE-NOVAE** FERNALD, M. L. The hyphen should be removed from the collector's name **GILBERT-JR.**, F.A. The practice of joining Jr. to the end of the collector's or author's last name by a hyphen in this manner was required by the specifications of the pilot processing system, but this requirement no longer obtains.

Note: Changes in spelling of specific epithets also apply wherever these epithets have appeared in the indices.

Statistical Summary of Catalog

606	taxa (species, subspecies — SSP, varieties — VAR, forms—FOR, nothomorphs—NM.)
612	collections
1,059	specimens (sheets)

CATALOG OF SPECIMENS

-A-

1. **ABDITA BICKNELL, E.P.**, BULL. TORREY BOT. CLUB 35:492. 1908.
 USA: NEW YORK: LONG ISLAND, RICHMOND HILL (BICKNELL, E.P., ---,
 11 MAY 1904)
 NY TYPE
2. **ABLATA BAILEY, L.H.**, N. AMER. FL. 18:314. 1935.
 CANADA: BRITISH COLUMBIA: VANCOUVER ISLAND, MOUNT MARK; ALT.
 2500 FT.; (ORIG. PUB.: BOT. GAZ. 13:82. 1888.) (MACOUN, JOHN,
 13401. 26 JUL 1887)
 GH ISONEOTYPE
 NY ISONEOTYPE
3. **ABORIGINUM JONES, M.E.**, BULL. MONTANA STATE UNIV., BIOL. SER. 15:69.
 1910.
 USA: IDAHO: ADAMS CO.: INDIAN VALLEY; ALT. 2300 FT.
 (JONES, M.E., ---. 12 JUL 1899)
 CAS 242617 ISOTYPE
 DS 149709 ISOTYPE
 NY ISOTYPE
4. **ABRAMSII MACKENZIE, K.K.**, BULL. TORREY BOT. CLUB 36:482. 1909.
 USA: CALIFORNIA: SAN BERNARDINO CO.: SAN BERNARDINO MOUNTAINS,
 BEAR VALLEY (ABRAMS, L., 2816. 31 JUL 1902)
 DS 55317 ISOTYPE
 F 186491 ISOTYPE
 NY HOLOTYPE
5. **ABRUPTA MACKENZIE, K.K.**, BULL. TORREY BOT. CLUB 43:618. 1916.
 USA: CALIFORNIA: BUTTE CO.: STIRLING CITY; ALT. 3000 FT.
 (HELLER, A.A., 10820. 07 JUN 1913)
 DS 64125 ISOTYPE
 NY HOLOTYPE
6. **ABSCONDIRA VAR. ROSTELLATA FERNALD, M.L.**, RHODORA 44:386. 1942.
 USA: VIRGINIA: ISLE OF WIGHT CO.: LEE'S MILL (FERNALD, M.L. AND
 LONG, B., 12012. 08 JUN 1940)
 GH ISOTYPE
 MO TYPE COLLECTION
 NY TYPE COLLECTION
 US 2003161 TYPE COLLECTION
7. **X ABSCONDIRIFORMIS FERNALD, M.L.**, RHODORA 44:387. 1942.
 USA: VIRGINIA: SUSSEX CO.: NOTTOWAY RIVER, HUSKE (FERNALD, M.L.
 AND LONG, B., 12969. 13 JUN 1941)
 GH HOLOTYPE
 GH ISOTYPE
 MO 1306480 ISOTYPE

NY ISOTYPE
US 2003299 ISOTYPE

8. **ACCEDENS** HOLM, H.T., AMER. J. SCI. SER. 4, 16:457. 1903.
USA: OREGON: MULTNOMAH CO.: SAUVIE ISLAND (COLUMBIA RIVER AT MOUTH OF WILLAMETTE RIVER) (HOWELL, T.J., ---. -- MAY 1880)
GH SYNTYPE
MO SYNTYPE
9. **ACROPHILA** BLAKE, S.T., J. ARNOLD ARBOR. 28:114. 1947.
INDONESIA: WEST NEW GUINEA: LAKE HABBEMA; (COUNTRY AS "DUTCH NEW GUINEA") (BRASS, L.J., 9515. -- AUG 1938)
A ISOTYPE
10. **ACUTA** VAR. **PALLIDA** BOOTT, F., ILL. GENUS CAREX 4:166, PL. 554. 1867.
USA: OREGON: "FORT COLVILLE TO ROCKY MOUNTAINS, WEST KOOTENAY" (LYALL, DAVID, ---. -- --- 1861)
GH TYPE COLLECTION
11. **ACUTINA** BAILEY, L.H., MEM. TORREY BOT. CLUB 1:52. 1889.
USA: OREGON: DESCHUTES RIVER (HOWELL, T.J., 935. 09 MAY 1885)
F 206585 TYPE MATERIAL
GH ISOTYPE
NY TYPE COLLECTION
US 25164 TYPE COLLECTION
US 817087 TYPE COLLECTION
12. **ACUTINELLA** MACKENZIE, K.K., N. AMER. FL. 18:407. 1935.
USA: OREGON: -- (HENDERSON, L.F., 13. -- --- 1883)
US 27286 HOLOTYPE
13. **ADUSTA** VAR. **GLOMERATA** OLNEY, S.T. EX BAILEY, L.H., BOT. GAZ. 9:139. 1884.
CANADA: NEW BRUNSWICK: KENT CO.: SALMON RIVER (FOWLER, J., ---. -- --- 1872)
GH SYNTYPE
14. **AENEA** FERNALD, M.L., PROC. AMER. ACAD. ARTS 37:480. 1902.
USA: NEW HAMPSHIRE: GRAFTON CO.: FRANCONIA, FOREST HILLS HOUSE (FAXON, E. AND FAXON, C.E., ---. 23 JUN 1888)
GH SYNTYPE
15. **AEQUA** CLARKE, C.B., BULL. MISC. INFORM. ADD. SER. 8:86. 1908.
USA: CALIFORNIA: SAN MATEO CO.: SAN MATEO, CRYSTAL SPRINGS LAKE (BAKER, C.F., 811. 10 MAY 1902)
GH TYPE COLLECTION
NY TYPE COLLECTION
16. **AESTIVALIFORMIS** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 37:238. 1910.
USA: NEW JERSEY: PASSAIC CO.: GREENWOOD LAKE (MACKENZIE, K.K., 2676. 23 JUN 1907)
GH ISOTYPE

MO TYPE MATERIAL

17. *AESTIVALIS* CURTIS, M.A. EX GRAY, A., AMER. J. SCI. ARTS SER. 1, 42:28. 1841.
USA: NORTH CAROLINA: -- (CURTIS, M.A., ---. -- JUL 1841)
MO TYPE MATERIAL
NY TYPE MATERIAL
18. *AGGLOMERATA* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 33:442. 1906.
USA: MISSOURI: JACKSON CO.: COURTNEY (BUSH, B.F., 1718. 25 MAY 1902)
MO TYPE COLLECTION
US 440179 TYPE COLLECTION
19. *AGGREGATA* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 37:246. 1910.
USA: MISSOURI: JACKSON CO.: COURTNEY (BUSH, B.F., 1718. 25 MAY 1902)
NY TYPE
20. *AGROSTOIDES* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 34:607. 1907.
USA: NEW MEXICO: SOCORRO CO.: LUNA; ALT. 6500 FT. (WOOTON, E.O., ---. 28 JUL 1900)
US 617798 TYPE
US 694342 TYPE
21. *ALATA* TORREY, J., ANN. LYCEUM NAT. HIST. NEW YORK 3:396. 1836.
USA: NORTH CAROLINA: CRAVEN CO.: NEW BERN (CROOM, H.B., ---. -- --- 1834)
NY SYNTYPE
22. *ALATA* VAR. *FERRUGINEA* FERNALD, M.L., PROC. AMER. ACAD. ARTS 37:477, PL. 2. 1902.
USA: OHIO: -- (SULLIVANT, W.S., ---. ---)
GH HOLOTYPE
23. *ALBIDA* BAILEY, L.H., MEM. TORREY BOT. CLUB 1:9. 1889.
USA: CALIFORNIA: SANTA ROSA CREEK (BIGELOW, J.M., ---. -- --- 1853-1854)
NY TYPE COLLECTION
24. *ALBO-NIGRA* MACKENZIE, K.K. IN RYDBERG, P.A., FL. ROCKY MOUNT. 137, 1060. 1917.
USA: WYOMING: PARK CO.: NEEDLE MOUNTAIN (CARY, M., 613. 11 JUL 1910)
US 858947 TYPE COLLECTION
25. *ALMA* BAILEY, L.H., MEM. TORREY BOT. CLUB 1:50. 1889.
USA: CALIFORNIA: -- (PARRY, C.C. AND LEMMON, J.G., 396. -- --- 1876)
CAS 497554 ISOTYPE
NY ISOTYPE
26. *ALOPECOIDEA* TUCKERMAN, E., ENUM. CARIC. 18. 1843.

USA: NEW YORK: YATES CO.: PENN YAN (SARTWELL, H.P., ---. ---)
 F 32699 ISOTYPE
 F 32700 ISOTYPE
 F 56916 ISOTYPE
 F 349624 ISOTYPE
 F 373673 ISOTYPE
 F 373679 ISOTYPE
 GH ISOTYPE
 NY ISOTYPE

27. *ALOPECOIDEA* VAR. *SPARSI-SPICATA* DEWEY, C., AMER. J. SCI. ARTS
 SER. 2, 8:350. 1849.

USA: MICHIGAN: MACOMB CO.: WASHINGTON (COOLEY, D., 74. ---)
 CAS 553879 ISOTYPE
 GH ISOTYPE
 NY ISOTYPE

28. *AMPHIBOLA* STEUDEL, E.G., SYN. PL. GLUM. 2:234. 1855.

USA: LOUISIANA: ORLEANS PARISH: NEW ORLEANS (DRUMMOND, T., 437.
 ---)
 NY TYPE COLLECTION

29. *AMPHIBOLA* VAR. *TURGIDA* FERNALD, M.L., RHODORA 44:311. 1942.

USA: NEW YORK: TOMPKINS CO.: ITHACA (WIEGAND, K.M. AND
 THOMAS, C.C., 1915. 15 JUN 1914)
 GH HOLOTYPE

30. *AMPLISQUAMA* HERMANN, F.J., RHODORA 57:158. 1955.

USA: GEORGIA: GILMER CO.: CHATSWORTH (PYRON, J.H. AND
 MCVAUGH, R., 2951. 15 MAY 1938)
 US 2231424 TYPE

31. *ANGUSTIOR* MACKENZIE, K.K. IN RYDBERG, P.A., FL. ROCKY MOUNT.
 124, 1060. 1917.

USA: DISTRICT OF COLUMBIA: -- (STEELE, E.S., ---. -- --- 1896)
 NY TYPE COLLECTION

32. *ANGUSTIOR* VAR. *GRACILENTA* CLAUSEN, R.T. AND WAHL, H.A., RHODORA
 41:30. 1939.

USA: PENNSYLVANIA: CENTRE CO.: INGLEBY (CLAUSEN, R.T. AND
 WAHL, H.A., 2532. 06 JUN 1937)
 GH TYPE

33. *ANTHOXANTHERA* PRESL, K.B., REL. HAENK. 3:203. 1828.

USA: ALASKA: NUTKA SOUND ("SINUS NUTKA") (HAENKE, T., ---. ---)
 US 865058 TYPE

34. *APERTA* BOOTT, F. IN HOOKER, W.J., FL. BOR.-AMER. 2:218.
 1839 ("1840").

USA: WASHINGTON: COLUMBIA RIVER (SCOULER, J., ---. ---)
 GH SYNTYPE

35. *APERTA* VAR. *UMBROSA* KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG.

26:254. 1929.

USA: WASHINGTON: KLUCKITAT CO.: BINGEN (SUKSDORF, W.N., 12347.
---)

CAS 242962 ISOTYPE

36. **APERTA VAR. VIRIDANS** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG.

26:254. 1929.

USA: WASHINGTON: KLUCKITAT CO.: BINGEN (SUKSDORF, W.N., 12348.
15 SEP-23 OCT 1927)

CAS 242961 SYNTYPE

USA: WASHINGTON: KLUCKITAT CO.: BINGEN (SUKSDORF, W.N., 12359.
23 OCT 1927)

CAS 242960 SYNTYPE

37. **APODA CLOKEY**, I.W., AMER. J. SCI. SER. 5, 3:88, PL. 2. 1922.

USA: IDAHO: CUSTER CO.: MACKAY (NELSON, A. AND MACBRIDE, J.F.,
1533. 01 AUG 1911)

NY ISOTYPE

UC 905439 HOLOTYPE

38. **APODOSTACHYA OHWI**, J., JAP. J. BOT. 7:188. 1934.

TAIWAN: --: MOUNT NANKO-TAISAN (OHWI, J., 4182. -- JUL 1933)

F 1464064 TYPE MATERIAL

39. **AQUATILIS WAHLENBERG**, G., KONGL. VETENSK. ACAD. NYA HANDL. 24:165.
1803.

USA: NEW YORK: SENECA CO.: JUNIUS (SARTWELL, H.P., 56. ---)

NY TYPE COLLECTION

40. **AQUATILIS VAR. SUBSTRICTA** KUKENTHAL, G. IN ENGLER, H.G.A., PFLANZENR.
4, FAM. 20:309. 1909.

USA: NEW YORK: SENECA CO.: JUNIUS (SARTWELL, H.P., 56. ---)

CAS 554019 ISOTYPE

GH ISOTYPE

MO TYPE COLLECTION

41. **ARAPAHOENSIS CLOKEY**, I.W., RHODORA 21:83. 1919.

USA: COLORADO: BOULDER CO.: MOUNT ARAPAHOE; ALT. 11700 FT.
(CLOKEY, I.W., 3227. 29 JUL 1918)

CAS 102030 ISOTYPE

DS 109019 ISOTYPE

GH ISOTYPE

NY ISOTYPE

UC 905436 HOLOTYPE

42. **ARCTAEFORMIS MACKENZIE**, K.K., N. AMER. FL. 18:97. 1931.

CANADA: BRITISH COLUMBIA: ELGIN (HENRY, J.K., 9152.

C4 JUN 1915)

NY TYPE

43. **ARCTICA DEWEY**, C., AMER. J. SCI. ARTS SER. 1, 27:239. 1835.

CANADA: SASKATCHEWAN: CARLTON HOUSE (52 51'N., 106 13'W.)

(RICHARDSON, J., ---. ---)

NY

TYPE COLLECTION

44. **ARGYRANTHA** TUCKERMAN, E. EX DEWEY, C., AMER. J. SCI. ARTS
 SER. 2, 29:346. 1860.
 USA: MASSACHUSETTS: HAMPSHIRE CO.: AMHERST (TUCKERMAN, E., ---.
 ---)
 GH HOLOTYPE
 GH ISOTYPE
45. **ARISTATA VAR. LONGO-LANCEOLATA** DEWEY, C., AMER. J. SCI. ARTS
 SER. 2, 18:102. 1854.
 USA: NEBRASKA: BAD LANDS ("MAUVAIS TERRES") (HAYDEN, F.V., ---.
 -- --- 1853)
 GH HOLOTYPE
46. **ARSENII** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG. 8:326. 1910.
 MEXICO: MICHUACAN: MORELIA (ARSENE, G. (FRERE), 3054.
 16 JUL 1909)
 GH ISOTYPE
 NY ISOTYPE
 US 1030011 TYPE COLLECTION
47. **ARTITECTA VAR. SUBTILIROSTRIS** HERMANN, F.J., RHODORA 40:79. 1938.
 USA: INDIANA: VERMILLION CO.: CLINTON (DEAM, C.C., 54764.
 05 MAY 1934)
 GH HOLOTYPE
48. **ASSINIBOINENSIS** BOOTT, W., BOT. GAZ. 9:91. 1884.
 CANADA: MANITOBA: ASSINIBOINE RAPIDS (MACOUN, JOHN, 52.
 14 JUN 1879)
 GH SYNTYPE
49. **ATHABASCENSIS** HERMANN, F.J., LEAFL. W. BOT. 8:111. 1957.
 CANADA: ALBERTA: JASPER NATIONAL PARK, ATHABASCA RIVER,
 ATHABASCA FALLS (HERMANN, F.J., 13498. 28 AUG 1956)
 US 2265958 HOLOTYPE
50. **ATHROSTACHYA** OLNEY, S.T. IN GRAY, A., PROC. AMER. ACAD. ARTS 7:393.
 1868.
 USA: CALIFORNIA: MARIPOSA CO.: YOSEMITE NATIONAL PARK,
 YOSEMITE VALLEY (BOLANDER, H.N., 6213. 17 JUN 1863)
 NY SYNTYPE
 US 319165 SYNTYPE
 USA: CALIFORNIA: MARIPOSA CO.: YOSEMITE NATIONAL PARK,
 YOSEMITE VALLEY (BREWER, W.H., 1650. 17 JUN 1863)
 MO SYNTYPE
 NY SYNTYPE
51. **ATRACODES** HERMANN, F.J., J. WASH. ACAD. SCI. 40:283. 1950.
 MEXICO: CHIAPAS: COMITAN (SHARP, A.J., 45450. 29 APR 1945)
 NY ISOTYPE
 US 2133192 TYPE

52. **ATROFUSCA VAR. DECOLORATA** PORSILD, A.E., SARGENTIA 4:20. 1943.
CANADA: NORTHWEST TERRITORIES: MACKENZIE DISTRICT: GREAT BEAR
LAKE, CAPE MCDONNELL (PORSILD, A.E. AND PORSILD, R.T., 5120.
02 AUG 1928)
US 2096188 ISOTYPE
53. **ATROSQUAMA** MACKENZIE, K.K., PROC. BIOL. SOC. WASH. 25:51. 1912.
CANADA: ALBERTA: SMOKY RIVER (HOLLISTER, N., 14. 05 AUG 1911)
NY ISOTYPE
US 622651 HOLOTYPE
54. **AUREA VAR. ANDROGYNA** OLNEY, S.T. IN WATSON, S.,
BOT. U.S. GEOL. EXPLOR. 40TH PAR. 371. 1871.
USA: PENNSYLVANIA: ERIE CO.: ERIE, PRESQUE ISLE (PENINSULA)
(GARBER, A.P., ---. 09 JUN 1869)
NY ISOTYPE
55. **AUROLENSIS** STEUDEL, E.G., SYN. PL. GLUM. 2:223. 1855.
USA: LOUISIANA: ORLEANS PARISH: NEW ORLEANS (DRUMMOND, T., 431.
-- --- 1832)
NY TYPE COLLECTION
56. **AUSTRO-CAROLINIANA** BAILEY, L.H., BULL. TORREY BOT. CLUB 20:428.
1893.
USA: SOUTH CAROLINA: PICKENS CO.: TABLE MOUNTAIN (BUCKLEY, S.B.,
---. ---)
MO 1834152 HOLOTYPE
57. **AUSTROMONTANA** PARISH, S.B., BULL. S. CALIF. ACAD. SCI. 4:108, PL. 15.
1905.
USA: CALIFORNIA: SAN BERNARDINO CO.: MILL CREEK FALLS; ALT.
6000 FT. (PARISH, S.B., 2485. 03 JUL 1892)
DS 489410 HOLOTYPE
58. **AUTUMNALIS** MACKENZIE, K.K., N. AMER. FL. 18:66. 1931.
MEXICO: MEXICO: FLOR DE MARIA (PRINGLE, C.G., 4275.
03 OCT 1892)
F 264169 ISOTYPE
MO ISOTYPE
US 817295 HOLOTYPE
59. **AZTECICA** MACKENZIE, K.K., N. AMER. FL. 18:229. 1935.
MEXICO: OAXACA: SIERRA DE SAN FELIPE; ALT. 2300 M.
(PRINGLE, C.G., 4839. 19 AUG 1894)
GH TYPE COLLECTION
MO TYPE COLLECTION
60. **AZUAYAE** STEYERMARK, J.A., PHYTOLOGIA 9:337. 1964.
ECUADOR: AZUAY: TOREADOR (STEYERMARK, J.A., 53105. 15 JUN 1943)
F 1266184 TYPE MATERIAL
NY ISOTYPE
US 1933437 ISOTYPE

-8-

61. **BACKANA** DEWEY, C., AMER. J. SCI. ARTS SER. 1, 29:250. 1836.
CANADA: SASKATCHEWAN: CARLTON HOUSE (52 51'N., 106 13'W.)
(RICHARDSON, J., 417. ---)
GH TYPE COLLECTION
62. **BACKII** BOOTT, F. IN HOOKER, W. J., FL. BOR. AMER. 2:210.
1839 ("1840").
CANADA: SASKATCHEWAN: CARLTON HOUSE (52 51'N., 106 13'W.)
(RICHARDSON, J., ---. ---)
GH SYNTYPE
NY SYNTYPE
63. **BALTZELLII** CHAPMAN, A. W. EX DEWEY, C., AMER. J. SCI. ARTS
SER. 2, 3:335. 1847.
USA: FLORIDA: BEAR CREEK (CHAPMAN, A. W., ---. ---)
NY COTYPE
64. **BAMBUSETORUM** MERRILL, E. D., PHILIPP. J. SCI. 13:132. 1918.
CHINA: KWANGTUNG: LOH-FAU-SHAN (MOUNTAIN) (MERRILL, E. D., 10985.
12 AUG 1917)
US 2333748 ISOTYPE
65. **BANKSII** BOOTT, F., TRANS. LINN. SOC. LONDON 20:119. 1846.
ARGENTINA: TIERRA DEL FUEGO (TERRITORY): TIERRA DEL FUEGO
(BANKS, J. AND SOLANDER, D. C., ---. -- --- 1769)
MO 1611724 SYNTYPE
US 1232938 SYNTYPE
66. **BARBARAE** DEWEY, C. IN TORREY, J. IN EMORY, W. H.,
REP. U.S. MEX. BOUND. SURV., BOT. 2(1):231. 1859.
USA: CALIFORNIA: LOS ANGELES CO.: SANTA BARBARA (PARRY, C. C.,
---. -- --- 1850)
GH HOLOTYPE
NY ISOTYPE
67. **BARRATTII** SCHWEINITZ, L. D. AND TORREY, J.,
ANN. LYCEUM NAT. HIST. NEW YORK 1:361. 1824.
USA: NEW JERSEY: CAPE MAY CO.: CAPE MAY (COLLINS, Z., ---. ---)
NY TYPE COLLECTION
68. **BARTLETTII** O'NEILL, H. T., PUBL. CARNEGIE INST. WASH. 522:255. 1940.
BRITISH HONDURAS: CAYO: MOUNT PINE RIDGE (BARTLETT, H. H.,
11718A. 24 FEB 1931)
F 999642 TYPE MATERIAL
GH ISOTYPE
NY TYPE
69. **BAYARDI** FERNALD, M. L., RHODORA 44:71. 1942.

- USA: VIRGINIA: SOUTHAMPTON CO.: DREWRYVILLE (FERNALD, M.L.;
LONG, B. AND SMART, R.F., 5677. 22 JUN 1936)
GH HOLOTYPE
70. **BILTMOREANA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 37:234. 1910.
USA: NORTH CAROLINA: SATULA MOUNTAIN (---, 2688. 25 MAY 1897)
GH ISOTYPE
NY TYPE
71. **BIPARTITA** VAR. **AUSTROMONTANA** HERMANN, F.J., LEAFL. W. BOT. 10:16.
1963.
USA: COLORADO: BOULDER CO.: NEDERLAND, NOWIT RIDGE; ALT. 11500
FT. (HERMANN, F.J., 17059. 15 AUG 1961)
CAS 430881 ISOTYPE
72. **BONANZENSIS** BRITTON, N.L., BULL. NEW YORK BOT. GARD. 2:160. 1901.
CANADA: YUKON TERRITORY: BONANZA RIVER (WILLIAMS, R.S., ---.
18 JUN 1899)
NY TYPE
73. **BONPLANDII** VAR. **MINOR** BOOTT, F. IN GRAY, A.,
PROC. ACAD. NAT. SCI. PHILADELPHIA 1863:77. 1863.
USA: COLORADO: ROCKY MOUNTAINS; LAT. 39-41 N. (HALL, E. AND
HARBOUR, J.P., 591. -- --- 1862)
F 314869 ISOTYPE
F 456934 ISOTYPE
GH HOLOTYPE
MO ISOTYPE
74. **BRACHYPODA** HOLM, H.T., AMER. J. SCI. SER. 4, 20:302. 1905.
USA: OREGON: KLAMATH CO.: CRATER LAKE NATIONAL PARK, CATHEDRAL
SPRING (COVILLE, F.V., 1455. 11 SEP 1902)
US 415269 TYPE COLLECTION
75. **BRAINERDII** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 40:534. 1913.
USA: CALIFORNIA: EL DORADO CO.: SIERRA NEVADA RANGE, SLIPPERY
FORD (BRAINERD, E., 121. 19 JUL 1897)
US 964504 TYPE COLLECTION
76. **BREVICAILIS** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 40:547. 1913.
USA: OREGON: LINCOLN CO.: YAQUINA BAY (HOWELL, T.J., 2994.
-- MAY 1886)
NY TYPE COLLECTION
77. **BREVIS** BLAKE, S.T., J. ARNOLD ARBOR. 28:111. 1947.
PAPUA AND NEW GUINEA: PAPUA (TERRITORY): OWEN STANLEY RANGE,
MOUNT ALBERT EDWARD; (COUNTRY AS "BRITISH NEW GUINEA")
(BRASS, L.J., 4418. -- MAY-JUL 1933)
A ISOTYPE
78. **BREVISQUAMA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 34:152. 1907.
USA: WYOMING: SWEETWATER CO.: RED DESERT, ORENDO BUTTE
(NELSON, A., 7124. 11 JUN 1900)

NY

HOLOTYPE

79. **BREWERI** BOOTT, F., ILL. GENUS CAREX 4:142, PL. 455. 1867.
 USA: CALIFORNIA: SISKIYOU CO.: MOUNT SHASTA (BREWER, W.H., 1422.
 -- --- 1863)
 GH ISOTYPE
80. **BRONGNIARTII** VAR. **DENSA** BAILEY, L.H., PROC. AMER. ACAD. ARTS 22:137.
 1886 ("1887").
 USA: CALIFORNIA: MARK WEST CREEK (BIGELOW, J.M., ---.
 -- --- 1853-1854)
 NY SYNTYPE
81. **BRUNNEA** VAR. **SUBTEIOGYNA** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG.
 8:8. 1910.
 PHILIPPINES: BENGUET: LUZON (ISLAND), MOUNT PULOG
 (MERRILL, E.D., 6505. -- MAY 1909)
 US 711129 TYPE
82. **BUCKLEYI** DEWEY, C., AMER. J. SCI. ARTS SER. 1, 48:143. 1845.
 USA: NORTH CAROLINA: MITCHELL CO.: ROAN MOUNTAIN (BUCKLEY, S.B.,
 ---. ---)
 NY TYPE COLLECTION
83. **BULBOSTYLIS** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 42:617. 1915.
 USA: TEXAS: TARRANT CO.: FORT WORTH (RUTH, A., 360.
 12 APR 1913)
 MO 710112 TYPE COLLECTION
 US 587668 TYPE COLLECTION
84. **BURCHELLIANA** BOECKELER, J.O., LINNAEA 41:234. 1877.
 SOUTH AFRICA: --: -- (BURCHELL, W.J., 1911. ---)
 GH ISOTYPE
85. **BUSHII** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 37:241. 1910.
 USA: ARKANSAS: HEMPSTEAD CO.: FULTON (BUSH, B.F., 2514.
 30 APR 1905)
 NY TYPE COLLECTION
- C-
86. **CAESARIENSIS** MACKENZIE, K.K., N. AMER. FL. 18:440. 1935.
 USA: NEW JERSEY: CAMDEN CO.: LAUREL SPRINGS (LONG, B., F23212.
 15 JUN 1920)
 GH ISOTYPE
 NY TYPE
87. **CALIFORNICA** BAILEY, L.H., MEM. TORREY BOT. CLUB 1:9. 1889.
 USA: CALIFORNIA: MENDOCINO CO.: MENDOCINO CITY (BOLANDER, H.N.,
 4741. 01 MAY 1866)
 CAS 383776 TYPE COLLECTION

DS	49734	TYPE COLLECTION
MO		TYPE COLLECTION
NY		TYPE COLLECTION
US	29741	TYPE COLLECTION
US	319268	TYPE COLLECTION

88. *CAMPYLOCARPA* HOLM, H.T., AMER. J. SCI. SER. 4, 20:304. 1905.
 USA: OREGON: KLAMATH CO.: CRATER LAKE NATIONAL PARK, CATHEDRAL
 SPRING (COVILLE, F.V., 1457. 11 SEP 1902)
 US 690937 TYPE COLLECTION
89. *CAMPYLOCARPA* SSP. *AFFINIS* MAGUIRE, B. AND HOLMGREN, A.H.,
 LEAFL. W. BOT. 4:262. 1946.
 USA: UTAH: JUAB CO.: DEEP CREEK RANGE, INDIAN FARM CREEK
 (MAGUIRE, B. AND HOLMGREN, A.H., 21947. 16 JUL 1943)
 CAS 334353 ISOTYPE
 NY HOLOTYPE
 US 1885701 ISOTYPE
90. *CANESCENS* VAR. *DISJUNCTA* FERNALD, M.L., PROC. AMER. ACAD. ARTS
 37:488, PL. 5. 1902.
 CANADA: NEW BRUNSWICK: VICTORIA CO.: SERPENTINE RIVER
 (HAY, G.U., 84. 24 JUL 1900)
 GH PARATYPE
91. *CANESCENS* VAR. *DUBIA* BAILEY, L.H., BOT. GAZ. 9:119. 1884.
 USA: UTAH: BEAR RIVER CANYON; ALT. 10000 FT. (WATSON, S., 1231A.
 -- AUG 1869)
 NY ISOTYPE
92. *CANESCENS* VAR. *SPHAEROSTACHYA* TUCKERMAN, E., ENUM. CARIC. 19. 1843.
 USA: --: NEW ENGLAND (---, ---. -- --- 1843)
 GH ISOTYPE
 NY TYPE COLLECTION
93. *CAREYANA* TORREY, J. EX DEWEY, C., AMER. J. SCI. ARTS SER. 1, 30:60.
 1836.
 USA: NEW YORK: CAYUGA CO.: AUBURN (CAREY, J., ---. -- MAY 1832)
 NY HOLOTYPE
94. *CAROLINIANA* BUCKLEY, S.B., AMER. J. SCI. ARTS SER. 1, 45:173. 1843.
 USA: SOUTH CAROLINA: PICKENS CO.: TABLE MOUNTAIN (BUCKLEY, S.B.,
 ---. ---)
 GH TYPE COLLECTION
 NY TYPE COLLECTION
95. *CEPHALOPHORA* VAR. *MAXIMA* DEWEY, C., AMER. J. SCI. ARTS SER. 1, 43:92.
 1842.
 USA: NEW YORK: YATES CO.: PENN YAN (SARTWELL, H.P., ---. ---)
 GH TYPE
96. *CHALCIOLEPIS* HOLM, H.T., AMER. J. SCI. SER. 4, 16:21, 28. 1903.
 USA: COLORADO: MINERAL CO.: PAGOSA PEAK (BAKER, C.F., 226.

-- AUG 1899)

GH		SYNTYPE
MO		SYNTYPE
NY		SYNTYPE
US	368814	SYNTYPE

97. **CHAPMANI** SARTWELL, H.P. EX DEWEY, C., AMER. J. SCI. ARTS
SER.2, 19:254. 1855.
USA: FLORIDA: -- (CHAPMAN, A.W., 113. ---)
CAS 553918 ISOTYPE
US 28433 ISOTYPE
98. **CHIAPENSIS** HERMANN, F.J., BRITTONIA 19:68. 1967.
MEXICO: CHIAPAS: CHAMULA (BREEDLOVE, D.E., 6714. 30 JUL 1964)
F 1620435 ISOTYPE
NY ISOTYPE
US 2460272 HOLOTYPE
99. **CHIHUAHUAENSIS** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 35:265.
1908.
MEXICO: CHIHUAHUA: PUERTA DE ST. DIEGO; ALT. 6500 FT.
(HARTMAN, C.V., 620. 12 APR 1891)
F 49642 ISOTYPE
NY HOLOTYPE
US 306281 ISOTYPE
100. **CHIKUNGANA** BAILEY, L.H., GENTES HERB. 1:13. 1920.
CHINA: HUPEH AND HONAN: CHIKUNGSHAN (BAILEY, L.H., ---.
13 JUN 1917)
NY TYPE
101. **CILIARIS** FERNALD, M.L., PROC. AMER. ACAD. ARTS 43:61. 1907.
MEXICO: HIDALGO: LENA STATION (PRINGLE, C.G., 10039.
26 AUG 1905)
CAS 232050 ISOTYPE
CAS 445943 ISOTYPE
F 202021 ISOTYPE
GH HOLOTYPE
MO ISOTYPE
NY ISOTYPE
US 462090 ISOTYPE
102. **CINNAMOMEA** OLNEY, S.T. IN GRAY, A., PROC. AMER. ACAD. ARTS 7:396.
1868.
USA: CALIFORNIA: HUMBOLDT CO.: RED MOUNTAIN (BOLANDER, H.N.,
6477. -- --- 1866)
CAS 553874 TYPE FRAGMENT
GH TYPE COLLECTION
US 28457 TYPE COLLECTION
US 319228 TYPE COLLECTION
103. **CIRCINNATA** MEYER, C.A.,
MEM. ACAD. IMP. SCI. ST.-PETERSBOURG DIVERS SAVANS 1:209, PL.6.

1831.

USA: ALASKA: ALEUTIAN ISLANDS, UNALASKA (ISLAND)

(CHAMISSE, L.A., ---. ---)

GH

ISOTYPE

104. *CLADOSTACHYA* VAR. *MAXIMA* KUKENTHAL, G. IN ENGLER, H.G.A., PFLANZENR. 4, FAM. 20:268. 1909.

BOLIVIA: --: -- (BANG, M., 2210. ---)

US

350077 TYPE COLLECTION

105. *CLIVICOLA* FERNALD, M.L. AND WEATHERBY, C.A., RHODORA 33:233. 1931.

CANADA: QUEBEC: GASPE CO.: MOUNT SAINT PIERRE (FERNALD, M.L.;

WEATHERBY, C.A. AND STEBBINS, G.L., 2411. 05 JUL 1931)

GH

HOLOTYPE

US

1839933 ISOTYPE

106. *COLLECTA* DEWEY, C., AMER. J. SCI. ARTS SER. 1, 11:314. 1826.

USA: MASSACHUSETTS: HAMPSHIRE CO.: WORTHINGTON (DEWEY, C., ---. ---)

GH

HOLOTYPE

107. *COLUMBIANA* DEWEY, C., AMER. J. SCI. ARTS SER. 1, 30:62. 1836.

USA: --: COLUMBIA RIVER (SCOULER, J., ---. ---)

NY

HOLOTYPE

108. *COMANS* VAR. *STRICTA* CHEESEMAN, T.F.,

TRANS. & PROC. NEW ZEALAND INST. 24:415. 1892.

NEW ZEALAND: CANTERBURY (DISTRICT): SOUTH ISLAND, LAKE TEKAPO;

ALT. 2500 FT. (CHEESEMAN, T.F., ---. -- JAN 1883)

US

2038822 TYPE COLLECTION

109. *COMMUNIS* BAILEY, L.H., MEM. TORREY BOT. CLUB 1:41. 1889.

USA: NEW YORK: YATES CO.: PENN YAN (SARTWELL, H.P., 108.

-- --- 1848)

CAS

553913 SYNTYPE

110. *CONCINNOIDES* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 33:440. 1906.

USA: MONTANA: FLATHEAD CO.: COLUMBIA FALLS (WILLIAMS, R.S., ---.

07 JUN 1893)

NY

TYPE

111. *CONFERTIFLORA* BOOTT, F. IN GRAY, A., MEM. AMER. ACAD. ARTS

N.S., 6:418. 1859.

JAPAN: HOKKAIDO (PREFECTURE): HAKODATE (WRIGHT, C., ---.

-- JUN 1855)

US

27235 TYPE MATERIAL

112. *CONJUNCTA* BOOTT, F., ILL. GENUS CAREX 3:122, PL. 392. 1862.

USA: OHIO: FRANKLIN CO.: COLUMBUS (SULLIVANT, W.S., ---. ---)

CAS

383550 SYNTYPE

GH

SYNTYPE

113. *CONSPECTA* MACKENZIE, K.K., N. AMER. FL. 18:294. 1935.

MEXICO: PUEBLA: PUEBLA (ARSENE, G. (FRERE), 1359. 01 AUG 1907)
US 1032323 HOLOTYPE

114. **CONSTANCEANA** STACEY, J.W., LEAFL. W. BOT. 2:123. 1938.
USA: WASHINGTON: YAKIMA CO.: MOUNT ADAMS ("PADDO"), WODEN
VALLEY (SUKSDORF, W.N., 6864. 16 AUG 1909)
CAS 242987 HOLOTYPE
DS 269649 ISOTYPE
NY ISOTYPE
115. **CONVOLUTA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 43:428. 1916.
USA: NEW JERSEY: MORRIS CO.: BUDD'S LAKE (MACKENZIE, K.K., 2088.
10 JUN 1906)
NY TYPE
116. **COOLEYI** DEWEY, C. IN WOOD, A., AMER. J. SCI. ARTS SER. 1, 48:144.
1845.
USA: MICHIGAN: MACOMB CO.: WASHINGTON (COOLEY, D., ---. ---)
GH HOLOTYPE
117. **COSTATA** SCHWEINITZ, L.D., ANN. LYCEUM NAT. HIST. NEW YORK 1:67.
1824.
USA: PENNSYLVANIA: NORTHAMPTON CO.: EASTON (SCHWEINITZ, L.D.,
---. ---)
NY TYPE COLLECTION
118. **CRANDALLII** GANDOGGER, M., BULL. SOC. BOT. FRANCE 66:295. 1920.
USA: COLORADO: SUMMIT CO.: GRAYS PEAK (JONES, M.E., 834.
28 AUG 1878)
NY TYPE COLLECTION
119. **CRAWFORDII** FERNALD, M.L., PROC. AMER. ACAD. ARTS 37:469, PL. 1.
1902.
USA: NEW HAMPSHIRE: COOS CO.: MOUNT WASHINGTON, BETWEEN
MARSHFIELD AND CRAWFORDS (FAXON, E. AND FAXON, C.E., ---.
06 JUL 1878)
GH SYNTYPE
120. **CRAWFORDII** VAR. **VIGENS** FERNALD, M.L., PROC. AMER. ACAD. ARTS
37:470, PL. 1. 1902.
CANADA: QUEBEC: GASPE CO.: EAST GASPE (MACOUN, JOHN, 6.
01 AUG 1882)
GH SYNTYPE
121. **CREBRIFLORA** WIEGAND, K.M., RHODORA 24:197. 1922.
USA: FLORIDA: GADSDEN CO.: APPALACHICOLA RIVER, CHATTAHOOCHEE
(CURTISS, A.H., 3267. -- SEP 1882)
F 26304 TYPE MATERIAL
GH TYPE
NY TYPE
122. **CRINITA** VAR. **BREVICRINIS** FERNALD, M.L., RHODORA 48:54. 1946.
USA: VIRGINIA: DINWIDDIE CO.: ROWANTA (FERNALD, M.L. AND

- LONG, B., 8143. 08 JUN 1938)
GH HOLOTYPE
US 278555 ISOTYPE
123. **CRINITA VAR. MINOR** BOOTT, F., ILL. GENUS CAREX 1:18. 1858.
USA: NEW YORK: YATES CO.: PENN YAN (SARTWELL, H.P., 78. ---)
CAS 553883 TYPE COLLECTION
124. **CRINITA VAR. SIMULANS** FERNALD, M.L., PROC. PORTLAND SOC. NAT. HIST.
2:135. 1897.
USA: MAINE: PISCATAQUIS CO.: GREENVILLE (FERNALD, M.L., 264.
04 JUL 1894)
GH SYNTYPE
US 278555 SYNTYPE
125. **CRISTATA** SCHWEINITZ, L.D., ANN. LYCEUM NAT. HIST. NEW YORK 1:66.
1824.
USA: NEW JERSEY: -- (---, ---. ---)
GH ISOTYPE
126. **CRUS-CORVI** SHUTTLEWORTH, R.J. EX KUNZE, G., SUPPL. SCHKUHR'S RIEDGR.
128, PL. 32. 1844.
USA: LOUISIANA: ORLEANS PARISH: NEW ORLEANS (DRUMMOND, T., 432.
-- --- 1832)
GH ISOTYPE
127. **CRUS-CORVI VAR. VIRGINIANA** FERNALD, M.L., RHODORA 39:393, PL. 476.
1937.
USA: VIRGINIA: SOUTHAMPTON CO.: DREWRYVILLE (FERNALD, M.L.;
LONG, B. AND SMART, R.F., 5677. 22-23 JUN 1936)
GH HOLOTYPE
MO 1108572 ISOTYPE
NY ISOTYPE
US 1682487 ISOTYPE
128. **CRYPTOLEPIS** MACKENZIE, K.K., TORREYA 14:157. 1914.
USA: NEW JERSEY: SUSSEX CO.: WHITE POND (MACKENZIE, K.K., 4645.
26 JUN 1910)
NY TYPE
129. **CUBENSIS** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG. 23:220. 1926.
CUBA: ORIENTE: PICO TURGUINO (EKMAN, E.L., 14506. 21 JUL 1922)
NY ISOTYPE
US 1302602 TYPE COLLECTION
130. **CUBENSIS VAR. FLACCIDA** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG.
23:221. 1926.
HAITI: --: -- (EKMAN, E.L., ---. 08 AUG 1925)
NY TYPE COLLECTION
131. **CUCHUMATANENSIS** STANDLEY, P.C. AND STEYERMARK, J.A., CEIBA 4:62.
1953.
GUATEMALA: HUEHUETENANGO: SIERRA DE LOS CUCHUMATANES, TUNIMA;

ALT. 3400-3500 M. (STEYERMARK, J.A., 48347. 07 JUL 1942)
F 1128952 HOLOTYPE

132. **CULMENICOLA** STEYERMARK, J.A., FIELDIANA, BOT. 28:65, FIG.7. 1951.
VENEZUELA: SUCRE: CERRO TURUMIQUIRE, EASTERN PEAK; ALT. 2500 M.
(STEYERMARK, J.A., 62605. 06 MAY 1945)
F 1266170 HOLOTYPE
133. **CUMULATA FOR. SOLUTA** FERNALD, M.L., RHODORA 44:285. 1942.
CANADA: NOVA SCOTIA: QUEENS CO.: BROAD RIVER (FERNALD, M.L. AND
BISSELL, C.H., 20311. 16 AUG 1920)
GH HOLOTYPE
134. **CUNEATA** OHWI, J., MEM. COLL. SCI. KYOTO IMP. UNIV., SER. B, BIOL.
6:256. 1931.
JAPAN: AOMORI (PREFECTURE): HONSHU (ISLAND), AOMORI
(KINASHI, N., ---. -- JUL 1909)
F 1406416 TYPE MATERIAL
135. **CURATORIUM** STACEY, J.W., LEAFL. W. BOT. 2:13. 1937.
USA: ARIZONA: COCONINO CO.: GRAND CANYON NATIONAL PARK, KAIBAB
TRAIL TO ROARING SPRINGS (EASTWOOD, A. AND HOWELL, J.T., 1101.
23 JUN 1933)
CAS 204973 SYNTYPE
CAS 204974 SYNTYPE
136. **CUSICKII** MACKENZIE, K.K. IN PIPER, C.V. AND BEATTIE, R.K.,
FL. NW. COAST 72. 1915.
USA: OREGON: BAKER CO.: HEAD OF BURNT RIVER (CUSICK, W.C., 1331.
-- JUL 1886)
NY SYNTYPE
- D-
137. **DANAENSIS** STACEY, J.W., LEAFL. W. BOT. 2:166. 1939.
USA: CALIFORNIA: TUOLUMNE CO.: MOUNT DANA (HOWELL, J.T., 14546.
11 AUG 1938)
CAS 259874 ISOTYPE
CAS 259875 HOLOTYPE
GH ISOTYPE
US 1765700 ISOTYPE
138. **DAVYI** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 43:606. 1916.
USA: CALIFORNIA: PLACER CO.: TRUCKEE RIVER (BURT-DAVY, J., 3266.
25-30 JUN 1897)
GH ISOTYPE
JEPS 2511 ISOTYPE
NY ISOTYPE
UC 50814 HOLOTYPE
139. **X DEAMII** HERMANN, F.J., RHODORA 40:81. 1938.

- USA: INDIANA: PIKE CO.: OTWELL (HERMANN, F.J., 6147.
05 JUL 1934)
F 751055 ISOTYPE
140. *DEBILIFORMIS* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 37:244. 1910.
USA: CALIFORNIA: MENDOCINO CO.: -- (BOLANDER, H.N., 6477.
-- --- 1866)
MO TYPE MATERIAL
141. *DEBILIS* VAR. *INTERCURSA* FERNALD, M.L., RHODORA 44:307, PL. 713.
1942.
USA: VIRGINIA: GREENSVILLE CO.: ORION (FERNALD, M.L. AND
LONG, B., 12016. 13 JUN 1940)
GH HOLOTYPE
US 2003164 ISOTYPE
142. *DEBILIS* VAR. *PUBERA* GRAY, A., MAN. BOT. ED. 5, 593. 1867.
USA: PENNSYLVANIA: CENTRE CO.: BEAR MEADOWS (PORTER, T.C., ---.
---)
GH HOLOTYPE
143. *DEVIA* CHEESEMAN, T.F., TRANS. & PROC. NEW ZEALAND INST. 15:301.
1883.
NEW ZEALAND: NELSON (DISTRICT): SOUTH ISLAND, NELSON
(CHEESEMAN, T.F., 83. -- JAN 1882)
GH ISOTYPE
144. *DEWEYANA* VAR. *COLLECTANEA* FERNALD, M.L., RHODORA 15:93. 1913.
CANADA: QUEBEC: BONAVENTURE CO.: CASCAPEDIA RIVER, GRAND
CASCAPEDIA (WILLIAMS, E.F.; COLLINS, J.F. AND FERNALD, M.L.,
---. 12-15 JUL 1905)
GH HOLOTYPE
145. *DEWEYANA* VAR. *SPARSIFLORA* OLNEY, S.T. EX BAILEY, L.H., BOT. GAZ.
13:87. 1888.
USA: OREGON: MARION CO.: SALEM (HALL, E., 580. -- --- 1871)
F 455703 TYPE COLLECTION
F 1429766 TYPE COLLECTION
GH TYPE COLLECTION
NY TYPE COLLECTION
146. *DIGITALIS* VAR. *ASYMMETRICA* FERNALD, M.L., RHODORA 43:544. 1941.
USA: VIRGINIA: SOUTHAMPTON CO.: APPLEWHITE CHURCH
(FERNALD, M.L. AND LONG, B., 11791. 08 MAY 1940)
CAS 336835 ISOTYPE
GH HOLOTYPE
MO 1306423 ISOTYPE
US 2003133 ISOTYPE
147. *DIGITALIS* VAR. *GLAUCA* CHAPMAN, A.W., FL. S. U.S. ED. 1, 541. 1860.
USA: FLORIDA: MIDDLE FLORIDA (CHAPMAN, A.W., ---. -- --- 1842)
NY TYPE COLLECTION
US 969118 TYPE COLLECTION

148. **DIGITALIS VAR. MACROPODA** FERNALD, M.L., RHODORA 40:400, PL. 511. 1938.
 USA: VIRGINIA: GREENSVILLE CO.: -- (FERNALD, M.L. AND LONG, B., 7767. 08 APR 1938)
 GH HOLOTYPE
 MO 1129747 ISOTYPE
 NY ISOTYPE
 US 1761151 ISOTYPE
149. **DIVERSISTYLIS** ROACH, A.W., MADRONO 11:277. 1952.
 USA: OREGON: LINN CO.: CLEAR LAKE JUNCTION (ROACH, A.W., 202. 10 JUN 1949)
 CAS 372834 ISOTYPE
150. **DONNELL-SMITHII** BAILEY, L.H., MEM. TORREY BOT. CLUB 1:56. 1889.
 GUATEMALA: ALTA VERAPAZ: PANSAMALA; ALT. 3800 FT. (SMITH, J.D. AND TURCKHEIM, H., 659. -- JUN 1885)
 US 817314 TYPE COLLECTION
151. **DOUGLASII VAR. DENSISPICATA** DEWEY, C., AMER. J. SCI. ARTS SER. 2, 32:41. 1861.
 USA: NEBRASKA: -- (HAYDEN, F.V., 580. ---)
 GH TYPE MATERIAL
152. **DUDLEYI** MACKENZIE, K.K., ERYTHEA 8:30. 1922.
 USA: CALIFORNIA: MONTEREY CO.: TASSAJARA HOT SPRINGS (ELMER, A.D.E., 3132. -- JUN 1901)
 DS 145619 HOLOTYPE
 DS 629609 ISOTYPE
 MO ISOTYPE
 NY ISOTYPE
153. **X DUMANII** LEPAGE, E., NATURALISTE CANAD. 83:143, FIG. 4. 1956.
 CANADA: QUEBEC: VIEUX-COMPTOIR (LEPAGE, E., 32078. 30 JUL 1954)
 GH ISOTYPE
 US 2176489 ISOTYPE
154. **DURANDII** BOECKELER, J.O., ALLG. BOT. Z. SYST. 2:189. 1896.
 COSTA RICA: --: CERRO DE BUENA VISTA (PITTIER, H. AND TONDUZ, A., 3376. 19 JAN 1891)
 CAS 351155 ISOTYPE
 US 579795 TYPE MATERIAL
155. **DURIFOLIA** BAILEY, L.H., BULL. TORREY BOT. CLUB 20:428. 1893.
 CANADA: SASKATCHEWAN: CARLTON HOUSE (52 51'N., 106 13'W.) (RICHARDSON, J., ---. ---)
 NY SYNTYPE
156. **DUTILLYI** O'NEILL, H.T. AND DUMAN, M., RHODORA 43:413, PL. 669. 1941.
 CANADA: MANITOBA: CHURCHILL RIVER, CHURCHILL (DUMAN, M., 1506. 08 AUG 1938)
 GH ISOTYPE

-E-

157. **EASTWOODIANA** STACEY, J.W., LEAFL. W. BOT. 2:121. 1938.
USA: OREGON: GRANT CO.: DIXIE MOUNTAIN (HENDERSON, L.F., 5583.
25 JUL 1925)
CAS 130386 HOLOTYPE
DS 144009 ISOTYPE
GH ISOTYPE
158. **EBENEA** RYDBERG, P.A., BULL. TORREY BOT. CLUB 28:266. 1901.
USA: COLORADO: EL PASO CO.: PIKES PEAK (CLEMENTS, F., ---.
-- --- 1900)
NY TYPE
159. **ECHINATA** VAR. **ORMANTHA** FERNALD, M.L., PROC. AMER. ACAD. ARTS
37:483, PL. 4. 1902.
USA: CALIFORNIA: EL DORADO CO.: SIERRA NEVADA RANGE,
STRAWBERRY CREEK (BRainerd, E., 160. 18 JUL 1897)
GH HOLOTYPE
160. **EGGERTII** BAILEY, L.H., BOT. GAZ. 21:6. 1896.
USA: MISSOURI: BUTLER CO.: -- (EGGERT, H., ---. 08 AUG 1893)
NY TYPE COLLECTION
161. **EGGLESTONII** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 42:614. 1915.
USA: COLORADO: GUNNISON CO.: MOUNT CARBON, KEBLER PASS
(EGGLESTON, W.W., 6181. 22 AUG 1910)
NY ISOTYPE
US 857864 TYPE
162. **EGGLESTONII** VAR. **FESTIVELLIFORMIS** HERMANN, F.J., BRITTONIA 12:78.
1960.
MEXICO: NUEVO LEON: GALEANA (SCHNEIDER, R.A., 954. 25 JUL 1938)
US 2466328 HOLOTYPE
163. **EGREGIA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 42:414. 1915.
USA: WASHINGTON: KLIKITAT CO.: FALCON VALLEY (SUKSDORF, W.N.,
5181. 15 JUL 1905)
DS 284598 ISOTYPE
NY TYPE
164. **EKMANII** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG. 23:221. 1926.
HAITI: OUEST: PETIONVILLE (EKMAN, E.L., H1453. 12 AUG 1924)
GH ISOTYPE
NY TYPE MATERIAL
US 1411790 COTYPE
165. **EKMANII** VAR. **HOTTENSIS** KUKENTHAL, G. AND EKMAN, E.L., ARK. BOT.
22A(17):9. 1929.
HAITI: ---: MORNE CALUMETTE; ALT. 1200-1300 M. (EKMAN, E.L.,

H10662. 14 SEP 1928)

GH ISOTYPE
US 1414090 TYPE COLLECTION

166. **ELBERTANA** KELSO, L., BIOL. LEAFL. 31:3. 1945.
USA: COLORADO: LAKE CO.: MOUNT ELBERT (KELSO, L., 4967.
C1 AUG 1945)
GH TYPE MATERIAL
167. **ELEOCHARIS** BAILEY, L.H., MEM. TORREY BOT. CLUB 1:6. 1889.
CANADA: SASKATCHEWAN: SASKATCHEWAN PLAINS (MACOUN, JOHN, 1665.
12 AUG 1872)
GH ISOTYPE
168. **ELMERI** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG. 8:326. 1910.
PHILIPPINES: BENGUET: LUZON (ISLAND), BAGUIO (ELMER, A.D.E.,
8444. -- MAR 1907)
MO TYPE MATERIAL
US 854950 TYPE MATERIAL
169. **ELRODI** JONES, M.E., BULL. MONTANA STATE UNIV., BIOL. SER. 15:70.
1910.
USA: MONTANA: BEAVERHEAD CO.: MONIDA (JONES, M.E., ---.
08 JUL 1909)
DS 149706 ISOTYPE
NY ISOTYPE
US 1531248 TYPE MATERIAL
170. **ELYNOIDES** HOLM, H.T., AMER. J. SCI. SER. 4, 9:356. 1900.
USA: COLORADO: MINERAL CO.: PAGOSA PEAK; ALT. 12000 FT.
(BAKER, C.F., 230. -- AUG 1899)
GH ISOTYPE
MO TYPE COLLECTION
US 368818 TYPE COLLECTION
171. **ENGELMANNI** BAILEY, L.H., PROC. AMER. ACAD. ARTS 22:132.
1886 ("1887").
USA: COLORADO: EL PASO CO.: MOUNT FLORA, "PROBABLY NEAR
COLORADO SPRINGS" (ENGELMANN, G., ---. -- --- 1874)
GH HOLOTYPE
172. **EPAPILLOSA** MACKENZIE, K.K. IN RYDBERG, P.A., FL. ROCKY MOUNT.
138, 1060. 1917.
USA: UTAH: PIUTE CO.: MARYSVALE (JONES, M.E., 5345.
01 JUN 1874)
MO ISOTYPE
NY HOLOTYPE
NY ISOTYPE
US 270933 ISOTYPE
173. **EREMOSTACHYA** BLAKE, S.T., J. ARNOLD ARBOR. 28:99. 1947.
INDONESIA: WEST NEW GUINEA: LAKE HABBEMA; (COUNTRY AS "DUTCH
NEW GUINEA") (BRASS, L.J., 10255. -- OCT 1938)

A

ISOTYPE

174. **ERXLEBENIANA** KELSO, L., BIOL. LEAFL. 51:1. 1950.
 USA: COLORADO: GILPIN CO.: ROLLINSVILLE (KELSO, L., 6362.
 24 JUL 1948)
 GH TYPE MATERIAL
175. **EURycARPA** HOLM, H.T., AMER. J. SCI. SER. 4, 20:303. 1905.
 USA: WASHINGTON: KLICKITAT CO.: FALCON VALLEY (SUKSDORF, W.N.,
 1284. 26 JUN 1886)
 CAS 242957 SYNTYPE
176. **EURycARPA** VAR. **ATTENUATA** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG.
 26:254. 1929.
 USA: WASHINGTON: KLICKITAT CO.: FALCON VALLEY (SUKSDORF, W.N.,
 11551. 21 AUG 1924)
 CAS 246772 TYPE COLLECTION
177. **EURYSTACHYA** HERMANN, F.J., LEAFL. W. BOT. 8:109. 1957.
 CANADA: ALBERTA: JASPER NATIONAL PARK, MOUNT EDITH CAVELL,
 CAVELL LAKE (HERMANN, F.J., 13529. 28 AUG 1956)
 CAS 401490 ISOTYPE
 GH ISOTYPE
 US 2265959 HOLOTYPE
178. **EXPLORATORUM** NELMES, E., BULL. MISC. INFORM. 108. 1938.
 MALAYSIA: SABAH (TERRITORY): MOUNT KINABALU; ALT. 4000 FT.;
 (COUNTRY AS "BORNEO") (CLEMENS, J. AND CLEMENS, M.S., 34297.
 28 JUL 1933)
 GH HOLOTYPE
 NY ISOTYPE
179. **X EXSALINA** LEPAGE, E., NATURALISTE CANAD. 83:133. 1956.
 CANADA: QUEBEC: PIAGOSHIWI RIVER (DUTILLY, A.; LEPAGE, E. AND
 DUMAN, M., 32793. 29 AUG 1954)
 US 2176495 ISOTYPE
- F-
180. **FARGESII** FRANCHET, A., BULL. SOC. PHILOM. PARIS SER. 8, 7:34. 1895.
 CHINA: SZECHWAN: TCHEN-KEOU-TIN (FARGES, R.P., ---. ---)
 NY TYPE MATERIAL
 US 1123660 ISOTYPE
181. **FELIPENSIS** CLARKE, C.B., BULL. MISC. INFORM. ADD. SER. 8:84. 1908.
 MEXICO: OAXACA: SIERRA DE SAN FELIPE; ALT. 10000 FT.
 (PRINGLE, C.G., 4838. 25 AUG 1894)
 GH TYPE COLLECTION
 NY TYPE COLLECTION
182. **FENDLERIANA** BOECKELER, J.O., LINNAEA 39:135. 1875.

USA: NEW MEXICO: -- (FENDLER, A., 878. -- --- 1847)
 MO 1816497 TYPE COLLECTION
 NY TYPE

183. **FESTIVA** DEWEY, C., AMER. J. SCI. ARTS SER. 1, 29:246. 1836.
 USA: NORTHWEST TERRITORIES: MACKENZIE DISTRICT: GREAT BEAR
 LAKE ("BEAR LAKE") (RICHARDSON, J., ---. ---)
 NY SYNTYPE
184. **FESTIVA VAR. DECUMBENS** HOLM, H.T., AMER. J. SCI. SER. 4, 16:20, 26.
 1903.
 USA: COLORADO: MINERAL CO.: PAGOSA PEAK (BAKER, C.F., 232.
 -- AUG 1899)
 F 122779 TYPE MATERIAL
 NY TYPE COLLECTION
185. **FESTIVA VAR. STRICTA** BAILEY, L.H., MEM. TORREY BOT. CLUB 1:51.
 1889.
 USA: CALIFORNIA: -- (KELLOGG, A. AND HARFORD, W.G.W., 1073.
 -- --- 1868-1869)
 NY TYPE MATERIAL
186. **FESTIVELLA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 42:609. 1915.
 USA: WYOMING: ALBANY CO.: -- (NELSON, A., 3275. 02 JUL 1897)
 GH ISOTYPE
 NY TYPE
187. **FETA** BAILEY, L.H., BULL. TORREY BOT. CLUB 20:417. 1893.
 USA: CALIFORNIA: SONOMA CO.: CLOVERDALE SPRING (BOLANDER, H.N.,
 50. ---)
 GH HOLOTYPE
188. **FILIFOLIA VAR. EROSTRATA** KUKENTHAL, G. IN ENGLER, H.G.A., PFLANZENR.
 4, FAM. 20:86. 1909.
 USA: CALIFORNIA: EL DORADO CO.: ECHO LAKE (BRAINERD, E., 111.
 11 JUL 1897)
 GH ISOTYPE
189. **FISSA** MACKENZIE, K.K., N. AMER. FL. 18:64. 1931.
 USA: OKLAHOMA: CREEK CO.: SAPULPA (BUSH, B.F., 1043.
 18 MAY 1895)
 MO ISOTYPE
 NY HOLOTYPE
190. **FISSA VAR. ARISTATA** HERMANN, F.J., RHODORA 67:198. 1965.
 USA: FLORIDA: SEMINOLE CO.: OVIEDO (RAY, J.D.; WOOD, C.E.;
 SMITH, A.C. AND EATON, R.J., 10750. 26 APR 1961)
 GH HOLOTYPE
 NY ISOTYPE
 US 2449506 ISOTYPE
191. **FISSURICOLA** MACKENZIE, K.K., MUHLENBERGIA 5:53. 1909.
 USA: NEVADA: ELKO CO.: RUBY MOUNTAINS, HUMBOLDT RIVER

(HELLER, A.A., 9429. 11 AUG 1908)
CAS 234898 ISOTYPE

192. *FLACCIDULA* STEUDEL, E.G., SYN. PL. GLUM. 2:199. 1855.
USA: OHIO: MIAMI RIVER VALLEY (FRANK, J.C., 55. --- 1835)
NY TYPE
193. *FLACCIFOLIA* MACKENZIE, K.K., ERYTHEA 8:92. 1922.
USA: CALIFORNIA: SOUTHWEST (PART) (GRANT, G.B., ---.
01 MAY 1902)
US 468192 TYPE
194. *FLACCOSPERMA* DEWEY, C., AMER. J. SCI. ARTS SER. 2, 2:245. 1846.
USA: FLORIDA: CAMP SABINE (LEAVENWORTH, M.C., ---. -- --- 1846)
GH HOLOTYPE
NY ISOTYPE
195. *FLAVA* VAR. *GASPENSIS* FERNALD, M.L., RHODORA 8:200. 1906.
CANADA: QUEBEC: BONAVENTURE CO.: BONAVENTURE RIVER, BETWEEN
BALDE AND BAIE DES CHALEURS (COLLINS, J.F.; FERNALD, M.L. AND
PEASE, A.S., ---. 05-08 AUG 1904)
GH HOLOTYPE
196. *FLAVA* VAR. *RECTIROSTRA* GAUDIN, J.F.G.P., FL. HELV. 6:97. 1830.
SWITZERLAND: VALAIS (CANTON): ZERMATT (---, ---. -- AUG 1827)
GH ISOTYPE
197. *FOENEA* VAR. *PERPLEXA* BAILEY, L.H., MEM. TORREY BOT. CLUB 1:27.
1889.
CANADA: NEW BRUNSWICK: KENT CO.: -- (FOWLER, J., ---.
-- --- 1871)
GH ISOTYPE
198. *FORMOSA* DEWEY, C., AMER. J. SCI. ARTS SER. 1, 8:98. 1824.
USA: NEW YORK: YATES CO.: PENN YAN (SARTWELL, H.P., ---. ---)
CAS 102307 ISOTYPE
CAS 383156 ISOTYPE
GH ISOTYPE
199. *FRACTA* MACKENZIE, K.K., ERYTHEA 8:38. 1922.
USA: CALIFORNIA: SISKIYOU CO.: MOUNT SHASTA (PRINGLE, C.G., ---.
23 AUG 1881)
US 817810 HOLOTYPE
200. *FRANKLINII* BOOTT, F. IN HOOKER, W.J., FL. BOR.-AMER. 2:217, PL. 218.
1839 ("1840").
USA: --: ROCKY MOUNTAINS (DRUMMOND, T., ---. ---)
GH ISOTYPE
NY TYPE
201. *FULVESCENS* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 37:239. 1910.
ST. PIERRE AND MIQUELON: --: MIQUELON (ISLAND), LANGLADE
(ARSENE, L. (FRERE), ---. 28 JUL 1902)

NY

TYPE

202. **FUSCOLUTEA BOECKELER**, J.O., BOT. JAHRB. SYST. 7:278. 1886.
MEXICO: SAN LUIS POTOSI: -- (SCHAFFNER, J.G., 221. -- --- 1877)
NY TYPE MATERIAL
US 397187 TYPE COLLECTION
203. **FUSCOTINCTA MACKENZIE**, K.K., BULL. TORREY BOT. CLUB 36:478. 1909.
MEXICO: OAXACA: SIERRA DE SAN FELIPE (PRINGLE, C.G., 4839.
19 AUG 1894)
NY TYPE
US 251773 TYPE COLLECTION
US 817237 TYPE COLLECTION
- G-
204. **GARBERI FERNALD**, M.L., RHODORA 37:253. 1935.
USA: PENNSYLVANIA: ERIE CO.: ERIE, PRESQUE ISLE (PENINSULA)
(GARBER, A.P., ---. 09 JUN 1869)
GH ISOTYPE
US 63525 TYPE MATERIAL
205. **GARBERI VAR. BIFARIA FERNALD**, M.L., RHODORA 37:253. 1935.
CANADA: QUEBEC: GASPE CO.: WEST GASPE, SAINTE ANNE DES MONTS
(COLLINS, J.F. AND FERNALD, M.L., ---. 03-17 AUG 1905)
GH HOLOTYPE
206. **GAYANA VAR. HYALINA BAILEY**, L.H., PROC. AMER. ACAD. ARTS 22:135.
1886 ("1887").
MEXICO: SONORA: SONORA (THURBER, G., 652. ---)
NY TYPE
207. **GEOPHILA MACKENZIE**, K.K., BULL. TORREY BOT. CLUB 40:546. 1913.
USA: NEW MEXICO: RIO ARriba CO.: TIERRA AMARILLA
(EGGLESTON, W.W., 6584. 18 APR-25 MAY 1911)
US 660800 TYPE
208. **GEYERI BOOTT**, F., TRANS. LINN. SOC. LONDON 20:118. 1846.
USA: --: ROCKY MOUNTAINS (GEYER, C.A., 332. ---)
NY TYPE COLLECTION
209. **GLAREOSA VAR. AMPHIGENA FERNALD**, M.L., RHODORA 8:47. 1906.
CANADA: QUEBEC: BONAVENTURE CO.: ESCUMINAC BAY, ESCUMINAC
(FERNALD, M.L., ---. 28 JUN 1904)
GH HOLOTYPE
NY ISOTYPE
210. **GLAUCODEA TUCKERMAN**, E. EX OLNEY, S.T. IN GRAY, A.,
PROC. AMER. ACAD. ARTS 7:395. 1868.
USA: MASSACHUSETTS: HAMPSHIRE CO.: MOUNT HOLYOKE (TUCKERMAN, E.,
---. -- JUN 1864)

GH ISOTYPE

211. **GRACILIOR** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 43:614. 1916.
 USA: CALIFORNIA: SONOMA CO.: CLOVERDALE (BOLANDER, H.N., 3822.
 -- APR 1864)
 CAS 103033 ISOTYPE
 DS 145620 HOLOTYPE
 GH ISOTYPE
 MO ISOTYPE
 US 319177 ISOTYPE
212. **GRACILLIMA** SCHWEINITZ, L.D., ANN. LYCEUM NAT. HIST. NEW YORK 1:66.
 1824.
 USA: PENNSYLVANIA: -- (SCHWEINITZ, L.D., ---. ---)
 GH ISOTYPE
213. **GRIFFITHII** BOOTT, F., TRANS. LINN. SOC. LONDON 20:138. 1846.
 AFGHANISTAN: --: -- (GRIFFITH, W., 78 (KEW 6074). ---)
 NY TYPE COLLECTION
214. **GRISEA** VAR. **RIGIDA** BAILEY, L.H., MEM. TORREY BOT. CLUB 1:56. 1889.
 USA: PENNSYLVANIA: BUCKS CO.: SELLERSVILLE (FRETZ, C.D., ---.
 -- --- 1884)
 GH HOLOTYPE
215. **GUATEMALENSIS** HERMANN, F.J., BRITTONIA 23:145. 1971.
 GUATEMALA: HUEHUETENANGO: SIERRA DE LOS CUCHUMATANES, BETWEEN
 TOJIAH AND CHEMAL; ALT. 3380 M. (BEAMAN, J.H., 3880.
 31 JUL 1960)
 GH HOLOTYPE
216. **GYMNOCLADA** HOLM, H.T., AMER. J. SCI. SER. 4, 14:424. 1902.
 USA: OREGON: HURRICANE CREEK; BOGS AT 6000 FT. (CUSICK, W.C.,
 2487. 28 AUG 1900)
 MO TYPE MATERIAL
 NY ISOTYPE
217. **GYNODYNAMA** OLNEY, S.T. IN GRAY, A., PROC. AMER. ACAD. ARTS 7:394.
 1868.
 USA: CALIFORNIA: MENDOCINO CO.: MENDOCINO CITY (BOLANDER, H.N.,
 4700. -- --- 1866)
 CAS 383986 ISOTYPE
 DS 49500 ISOTYPE
 DS 490408 ISOTYPE
 NY ISOTYPE
- H-
218. **HAGIANA** KELSO, L., BIOL. LEAFL. 30:2. 1945.
 USA: COLORADO: HAGUES PEAKS (KELSO, L. AND KELSO, E.H., 525.
 08 AUG 1936)

CAS 328017 ISOTYPE

219. **HALEI** DEWEY, C., AMER. J. SCI. ARTS SER. 2, 2:248. 1846.
 USA: LOUISIANA: MISSISSIPPI RIVER (LEAVENWORTH, M.C. AND
 HALE, D., 683. ---)
 NY SYNTYPE
220. **HALLIANA** BAILEY, L.H., BOT. GAZ. 9:117. 1884.
 USA: OREGON: -- (HALL, E., 606. -- --- 1871)
 GH TYPE COLLECTION
221. **HALLII** OLNEY, S.T. IN PORTER, T.C. IN HAYDEN, F.V.,
 ANN. REP. U.S. GEOL. SURV. TERR. 5:496. 1872.
 USA: COLORADO: ROCKY MOUNTAINS; LAT. 39-41 N. (HALL, E. AND
 HARBOUR, J.P., 617. -- --- 1862)
 F 314892 SYNTYPE
 F 456958 SYNTYPE
 GH SYNTYPE
 MO SYNTYPE
 NY SYNTYPE
 US 29651 SYNTYPE
 USA: IDAHO: PLEASANT VALLEY (PORTER, T.C., ---. 26-29 JUN 1871)
 NY SYNTYPE
222. **HALSEYANA** DEWEY, C., AMER. J. SCI. ARTS SER. 1, 11:313. 1826.
 USA: MASSACHUSETTS: HAMPDEN CO.: WESTFIELD (DAVIS, E., ---.
 ---)
 GH HOLOTYPE
 NY ISOTYPE
223. **HARFORDII** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 43:615. 1916.
 USA: CALIFORNIA: -- (KELLOGG, A. AND HARFORD, W.G.W., 1073.
 -- --- 1868-1869)
 NY HOLOTYPE
 US 28685 ISOTYPE
224. **HARPERI** FERNALD, M.L., RHODORA 8:181. 1906.
 USA: GEORGIA: JEFFERSON CO.: LOUISVILLE, ROCKY COMFORT CREEK
 (HARPER, R.M., 2109. 09 APR 1904)
 F 176870 ISOTYPE
 GH HOLOTYPE
 NY ISOTYPE
225. **HASSEI** BAILEY, L.H., BOT. GAZ. 21:5. 1896.
 USA: CALIFORNIA: SAN BERNARDINO CO.: SAN BERNARDINO MOUNTAINS,
 SAN ANTONIO CANYON; ALT. 4500 FT. (HASSE, H.E., ---.
 -- JUL 1894)
 NY TYPE COLLECTION
226. **HATUSIMANA** OHWI, J., JAP. J. BOT. 7:196. 1934.
 TAIWAN: FUKIEN: KAOHSIUNG ("TAKAO"), DAIJURIN (OHWI, J., 329.
 -- MAR 1933)
 F 1411493 TYPE MATERIAL

227. **HAYDENIANA** OLNEY, S.T. IN WATSON, S.,
BOT. U.S. GEOL. EXPLOR. 40TH PAR. 366. 1871.
USA: CALIFORNIA: TUOLUMNE CO.: MOUNT DANA (BOLANDER, H.N., 5074.
---)
GH SYNTYPE
228. **HAYDENII** DEWEY, C., AMER. J. SCI. ARTS SER. 2, 18:103. 1854.
USA: SOUTH DAKOTA: STANLEY CO.: FORT PIERRE (HAYDEN, F.V., 21.
-- --- 1853-1854)
MO TYPE MATERIAL
229. **HEBETATA** BOOTT, F., ILL. GENUS CAREX 4:172, PL. 583. 1867.
PERU: LIMA: OBRAGILIA, NEAR LIMA (WILKES EXPLOR. EXPED., ---.
-- --- 1838-1842)
GH HOLOTYPE
230. **HELLERI** MACKENZIE, K.K., ERYTHEA 8:80. 1922.
USA: NEVADA: WASHOE CO.: MOUNT ROSE (HELLER, A.A., 9975.
23 JUL 1910)
F 283119 TYPE MATERIAL
NY TYPE
US 509004 ISOTYPE
231. **HEPBURNII** BOOTT, F. IN HOOKER, W.J., FL. BOR.-AMER. 2:209, PL. 207.
1839 ("1840").
USA: COLORADO: ROCKY MOUNTAINS, SOUTH PARK (DRUMMOND, T., 256.
---)
GH SYNTYPE
232. **HETERONEURA** BOOTT, W. IN WATSON, S., GEOL. SURV. CALIFORNIA, BOT.
2:239. 1880.
USA: CALIFORNIA: LAKE TAHOE TO BEAR VALLEY (KELLOGG, A., ---.
03 AUG ----)
GH TYPE MATERIAL
US 28206 TYPE COLLECTION
233. **HETEROSTACHYA** TORREY, J. EX DEWEY, C., AMER. J. SCI. ARTS
SER. 2, 2:248. 1846.
USA: MICHIGAN: CHIPPEWA CO.: DRUMMOND ISLAND (TORREY, J., ---.
03 AUG 1839)
NY TYPE
234. **HINDSII** VAR. **BREVIGLUMA** KUKENTHAL, G. IN ENGLER, H.G.A., PFLANZENR.
4, FAM. 20:307. 1909.
USA: IDAHO: BONNER CO.: HOPE (SANDBERG, J.H., 933. 20 AUG 1892)
NY ISOTYPE
235. **HIRSUTA** VAR. **CUSPIDATA** DEWEY, C. IN WOOD, A., CLASS-BOOK BOT. 758.
1861.
USA: ILLINOIS: -- (VASEY, G., ---. ---)
NY TYPE COLLECTION

236. **HITCHCOCKIANA** DEWEY, C., AMER. J. SCI. ARTS SER. 1, 10:274. 1826.
USA: MASSACHUSETTS: BERKSHIRE CO.: WILLIAMSTOWN, SADDLE
MOUNTAIN (DAVIS, E., ---. -- --- 1823)
GH HOLOTYPE
237. **HOLMIANA** MACKENZIE, K. K., BULL. TORREY BOT. CLUB 36:481. 1909.
USA: MONTANA: JOHN'S LAKE (VREELAND, F. K., 1121. 19 AUG 1901)
NY TYPE
238. **HOODII VAR. NERVOSA** BAILEY, L. H., MEM. TORREY BOT. CLUB 1:14. 1889.
USA: CALIFORNIA: -- (KELLOGG, A. AND HARFORD, W. G. W., 1069.
-- --- 1868-1869)
CAS 103098 SYNTYPE
NY SYNTYPE
239. **HOODII VAR. NEUROCARPA** PIPER, C. V., CONTR. U. S. NATL. HERB. 11:167.
1906.
USA: CALIFORNIA: -- (KELLOGG, A. AND HARFORD, W. G. W., 1069.
-- --- 1868-1869)
CAS 103098 SYNTYPE
NY SYNTYPE
240. **HOOKERANA** DEWEY, C., AMER. J. SCI. ARTS SER. 1, 29:248. 1836.
CANADA: SASKATCHEWAN: CARLTON HOUSE (52 51'N., 106 13'W.)
(RICHARDSON, J., ---. ---)
GH TYPE COLLECTION
NY TYPE COLLECTION
241. **HORMATHODES** FERNALD, M. L., RHODORA 8:165. 1906.
USA: RHODE ISLAND: PROVIDENCE CO.: PROVIDENCE (OLNEY, S. T., ---.
01 JUL 1867)
GH SYNTYPE
242. **HORNSCHUCHIANA VAR. LAURENTIANA** FERNALD, M. L. AND WIEGAND, K. M.,
RHODORA 13:130. 1911.
CANADA: NEWFOUNDLAND: PORT AU PORT BAY, TABLE MOUNTAIN
(FERNALD, M. L. AND WIEGAND, K. M., 2897. 16 AUG 1910)
GH HOLOTYPE
NY ISOTYPE
243. **HOSTIANA VAR. LAURENTIANA** FERNALD, M. L. AND WIEGAND, K. M., RHODORA
26:122. 1924.
CANADA: NEWFOUNDLAND: PORT AU PORT BAY, TABLE MOUNTAIN
(FERNALD, M. L. AND WIEGAND, K. M., 2897. 16 AUG 1910)
GH HOLOTYPE
244. **HOUGHTONIANA** TORREY, J. EX DEWEY, C., AMER. J. SCI. ARTS
SER. 1, 30:63. 1836.
USA: MINNESOTA: CLEARWATER CO.: LAKE ITASCA ("LAKE LA BICHE,
NEAR SOURCES OF MISSISSIPPI RIVER") (HOUGHTON, D., ---.
13 JUL 1832)
NY HOLOTYPE

245. **HUEHUETECA** STANDLEY, P.C. AND STEYERMARK, J.A.,
PUBL. FIELD MUS. NAT. HIST., BOT. SER. 23:195. 1947.
GUATEMALA: HUEHUETENANGO: SIERRA DE LOS CUCHUMATANES, CANANA;
ALT. 2500 M. (STEYERMARK, J.A., 49055. 18 JUL 1942)
F 1128957 HOLOTYPE
246. **HYMENODON** OHWI, J., ACTA PHYTOTAX. GEOBOT. 1:298. 1932.
JAPAN: --: HONSHU (ISLAND), OSAWAMURA IN SHIMOTSUKE
(SEKIMOTO, H., ---. 15 JUL 1932)
F 1463659 TYPE MATERIAL
- I-
247. **ICHANGENSIS** CLARKE, C.B., J. LINN. SOC., BOT. 36:290. 1903.
CHINA: HUPEH: -- (HENRY, A., 7860. -- --- 1885-1888)
US 802160 TYPE MATERIAL
248. **IDAHOA** BAILEY, L.H., BOT. GAZ. 21:5. 1896.
USA: IDAHO: BEAVER CANYON (RYDBERG, P.A., 2339. 07 AUG 1895)
US 235568 TYPE COLLECTION
US 235569 TYPE COLLECTION
249. **IGNOTA** DEWEY, C., AMER. J. SCI. ARTS SER. 2, 8:348. 1849.
USA: LOUISIANA: RAPIDES PARISH: ALEXANDRIA (HALE, D., 97. ---)
CAS 553902 TYPE COLLECTION
NY TYPE COLLECTION
250. **ILLINOENSIS** DEWEY, C., AMER. J. SCI. ARTS SER. 2, 3:245. 1847.
USA: ILLINOIS: HANCOCK CO.: AUGUSTA (MEAD, S.B., ---. ---)
NY TYPE COLLECTION
251. **ILLOTA** BAILEY, L.H., MEM. TORREY BOT. CLUB 1:15. 1889.
USA: COLORADO: ROCKY MOUNTAINS; LAT. 39-41 N. (HALL, E. AND
HARBOUR, J.P., 591. -- --- 1862)
F 314869 ISOTYPE
F 456934 ISOTYPE
GH HOLOTYPE
MO ISOTYPE
252. **INCISO-DENTATA** STEUDEL, E.G., SYN. PL. GLUM. 2:189. 1855.
CHILE: --: -- (LECHLER, W., 1136. -- OCT 1852)
GH ISOTYPE
253. **INCOMPERTA** BICKNELL, E.P., BULL. TORREY BOT. CLUB 35:494. 1908.
USA: MASSACHUSETTS: NANTUCKET CO.: NANTUCKET ISLAND
(BICKNELL, E.P., ---. 20 JUN 1908)
NY TYPE
254. **INCONDITA** HERMANN, F.J., LEAFL. W. BOT. 8:112. 1957.
CANADA: ALBERTA: RAM RIVER, NORDEGG (HERMANN, F.J., 13347.
15 AUG 1956)

CAS 404489 ISOTYPE
US 2265956 HOLOTYPE

255. **INCURVIFORMIS** MACKENZIE, K.K. IN RYDBERG, P.A., FL. ROCKY MOUNT. 120, 1060. 1917.

CANADA: ALBERTA: BANFF NATIONAL PARK, BANFF; ALT. 8000 FT.
(MACOUN, JOHN, ---. 31 JUL 1891)

GH ISOTYPE
NY HOLOTYPE

256. **INFLATA** VAR. **ANTICOSTENSIS** FERNALD, M.L., RHODORA 44:329, PL. 715. 1942.

CANADA: QUEBEC: ANTICOSTI ISLAND, PETITES-RIVIERES
(MARIE-VICTORIN, (FRERE) AND ROLLAND-GERMAIN, (FRERE), 25767.
20 JUL 1926)

GH HOLOTYPE

257. **INOPS** BAILEY, L.H., PROC. AMER. ACAD. ARTS 22:126. 1886 ("1887").
USA: OREGON: CLACKAMAS CO.: MOUNT HOOD (HENDERSON, L.F., ---.
-- JUL 1884)

CAS 203910 ISOTYPE
GH HOLOTYPE
NY ISOTYPE

258. **INTEGRA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 43:608. 1916.

USA: CALIFORNIA: PLACER CO.: SUMMIT; ALT. 7000 FT.
(HELLER, A.A., 9841. 16 JUL 1909)

NY HOLOTYPE

259. **INTERIMUS** MAGUIRE, B., BRITTONIA 5:200. 1944.

USA: UTAH: CACHE CO.: TONY GROVE LAKE (MAGUIRE, B., 16098.
05 AUG 1938)

CAS 348506 ISOTYPE
GH ISOTYPE
NY TYPE
US 1872574 ISOTYPE

260. **INTERIOR** BAILEY, L.H., BULL. TORREY BOT. CLUB 20:426. 1893.

USA: NEW YORK: YATES CO.: PENN YAN (SARTWELL, H.P., 36. ---)

CAS 553999 ISOTYPE
MO 1816496 TYPE COLLECTION
NY ISOTYPE

261. **INTERIOR** VAR. **CHARLESTONENSIS** CLOKEY, I.W.,

BULL. S. CALIF. ACAD. SCI. 38:1. 1939.

USA: NEVADA: CLARK CO.: CHARLESTON PARK (CLOKEY, I.W., 7468.
19 JUN 1937)

CAS 272528 ISOTYPE
CAS 272529 ISOTYPE
DS 278190 ISOTYPE
F 1076930 ISOTYPE
GH ISOTYPE
JEPS 4013 ISOTYPE

- | | | |
|----|---------|----------|
| MO | 1148381 | ISOTYPE |
| MO | 1190731 | ISOTYPE |
| MO | 1201697 | ISOTYPE |
| NY | | ISOTYPE |
| UC | 910020 | HOLOTYPE |
| US | 1733722 | ISOTYPE |
262. **INTERIOR VAR. JOSSELYNII** FERNALD, M.L., RHODORA 8:115. 1906.
USA: MAINE: AROOSTOOK CO.: SAINT JOHN RIVER, FORT KENT
(FERNALD, M.L., ---. 06 JUL 1904)
GH HOLOTYPE
NY ISOTYPE
US 605797 ISOTYPE
263. **INTERIOR VAR. KEWEENAWENSIS** HERMANN, F.J., AMER. MIDL. NATURALIST
25:19. 1941.
USA: MICHIGAN: KEWEENAW CO.: EAGLE HARBOR (HERMANN, F.J., 7985.
13 JUL 1936)
GH HOLOTYPE
NY ISOTYPE
US 1697057 ISOTYPE
264. **INTERRUPTA VAR. DISTENTA** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG.
26:254. 1929.
USA: WASHINGTON: KLUCKITAT CO.: BINGEN (SUKSDORF, W.N., 12333.
22 AUG-05 SEP 1927)
CAS 242959 TYPE COLLECTION
265. **INTUMESCENS FOR. VENTRIOSA** FERNALD, M.L., RHODORA 44:321, PL. 713.
1942.
USA: VERMONT: ADDISON CO.: RIPTON (BRAINERD, E., ---.
19 JUL 1898)
GH HOLOTYPE
266. **INVOLUCRATELLA MACKENZIE**, K.K., N. AMER. FL. 18:50. 1931.
MEXICO: SAN LUIS POTOSI: LAS CANOAS (PRINGLE, C.G., 3126.
08 JUL 1890)
F 263394 TYPE COLLECTION
GH ISOTYPE
MO TYPE MATERIAL
NY TYPE COLLECTION
US 30661 TYPE COLLECTION
- J-
267. **JACINTOENSIS** PARISH, S.B., BULL. S. CALIF. ACAD. SCI. 4:100, PL. 16.
1905.
USA: CALIFORNIA: RIVERSIDE CO.: SAN JACINTO MOUNTAINS,
TAMARACK VALLEY; ALT. 9000 FT. (HALL, H.M., 2483.
-- JUL-AUG 1901)
DS 78003 HOLOTYPE

268. **JACOBI-PETERI** HULTEN, O.E.G., ACTA UNIV. LUND. N.S., 38:300, FIG.4.
1942.
USA: ALASKA: TIN CITY (ANDERSON, J.P., 4871. 19 AUG 1938)
CAS 477664 ISOTYPE
269. **JAMESII** TORREY, J., ANN. LYCEUM NAT. HIST. NEW YORK 3:398. 1836.
USA: --: ROCKY MOUNTAINS (JAMES, EDWIN, ---. ---)
NY HOLOTYPE
270. **JAMESONI** VAR. **SUBFULVA** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG.
8:7. 1910.
BOLIVIA: --: -- (BANG, M., 2376. ---)
US 825890 TYPE MATERIAL
271. **JEPSONII** HOWELL, J.T., LEAFL. W. BOT. 8:223. 1958.
USA: CALIFORNIA: TUOLUMNE CO.: YOSEMITE NATIONAL PARK,
TUOLUMNE MEADOWS; ALT. 8800 FT. (JEPSON, W.L., 4477.
20 JUL 1911)
JEPS 20008 ISOTYPE
NY HOLOTYPE
272. **JONESII** BAILEY, L.H., MEM. TORREY BOT. CLUB 1:16. 1889.
USA: CALIFORNIA: NEVADA CO.: SODA SPRINGS; ALT. 7000 FT.
(JONES, M.E., ---. 22 JUL 1881)
NY SYNTYPE
- K-
273. **KALOIDES** PETRIE, D., TRANS. & PROC. NEW ZEALAND INST. 13:332. 1881.
NEW ZEALAND: OTAGO (DISTRICT): SOUTH ISLAND, CARRICK RANGE;
ALT. 4000 FT. (PETRIE, D., ---. ---)
GH ISOTYPE
274. **KATAHDINENSIS** FERNALD, M.L., RHODORA 3:171, PL.32. 1901.
USA: MAINE: PISCATAQUIS CO.: MOUNT KATAHDIN, DEPOT POND
(WILLIAMS, E.F.; CHURCHILL, J.R. AND FERNALD, M.L., ---.
16 JUL 1900)
GH HOLOTYPE
NY ISOTYPE
US 1325047 ISOTYPE
275. **KAUAIENSIS** KRAUSS, R., PACIFIC SCI. 4:279. 1950.
USA: HAWAII: KAUAI CO.: KAULUWEHI (ROCK, J.F., 9017.
-- OCT 1909)
US 2074700 TYPE MATERIAL
276. **KELLOGGII** BOOTT, W. IN WATSON, S., GEOL. SURV. CALIFORNIA, BOT.
2:240. 1880.
USA: CALIFORNIA: SIERRA NEVADA RANGE, "LAKE TAHOE TO BEAR
VALLEY" (KELLOGG, A., ---. ---)

GH SYNTYPE

277. **KOKRINENSIS** PORSILD, A.E., RHODORA 41:206, PL. 551. 1939.
 USA: ALASKA: KOKRINES MOUNTAINS (PORSILD, A.E. AND PORSILD, R.T.,
 711. 23 JUN-05 JUL 1926)
 GH ISOTYPE
278. **KULINGANA** BAILEY, L.H., GENTES HERB. 1:13. 1920.
 CHINA: KIANGSI: KULING; ALT. 2500-3500 FT. (BAILEY, L.H., ---.
 18 JUL 1917)
 NY TYPE
279. **KURILENSIS** OHWI, J., ACTA PHYTOTAX. GEOBOT. 2:27. 1933.
 USSR: RUSSIAN SFSR: SAKHALIN OBLAST: KURIL ISLANDS, SHIKOTAN
 (ISLAND), NOTORO; (COUNTRY AS "JAPAN") (OHWI, J., 813.
 11 AUG 1931)
 F 1406403 TYPE MATERIAL

-L-

280. **LACINIATA** BOOTT, F., ILL. GENUS CAREX 4:175, PL. 594. 1867.
 USA: CALIFORNIA: SACRAMENTO RIVER (RICH, WILLIAM,
 WILKES EXPED. 1241. -- --- 1838-1842)
 NY TYPE
281. **LACUNARUM** HOLM, H.T., AMER. J. SCI. SER. 4, 17:316. 1904.
 USA: CALIFORNIA: SONOMA CO.: SEBASTOPOL (HELLER, A.A., 5797.
 01 JUL 1902)
 F 129242 SYNTYPE
 F 1566419 SYNTYPE
 MO SYNTYPE
 NY SYNTYPE
 US 430229 SYNTYPE
282. **LAEVI-CONICA** DEWEY, C., AMER. J. SCI. ARTS SER. 2, 24:47. 1857.
 USA: NEBRASKA: BIG SIOUX RIVER (HAYDEN, F.V., ---. ---)
 GH HOLOTYPE
283. **LAMPROCHLAMYS** BLAKE, S.T., J. ARNOLD ARBOR. 28:104. 1947.
 PAPUA AND NEW GUINEA: PAPUA (TERRITORY): MAFULU; (COUNTRY AS
 "BRITISH NEW GUINEA") (BRASS, L.J., 5323. -- SEP-NOV 1933)
 A ISOTYPE
284. **LANCIFOLIA** CLARKE, C.B., J. LINN. SOC., BOT. 36:292. 1903.
 CHINA: HUPEH: -- (HENRY, A., 5467. ---)
 US 801132 SYNTYPE
285. **LANCIFRUCTUS** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 43:607. 1916.
 USA: CALIFORNIA: TULARE CO.: UPPER KERN RIVER, VOLCANO CREEK
 (HALL, H.M. AND BABCOCK, H.D., 5472. -- JUL 1904)
 NY ISOTYPE

UC 127723 HOLOTYPE

286. **LANGEANA** FERNALD, M.L., RHODORA 35:217. 1933.
CANADA: NEWFOUNDLAND: GARGAMELLE COVE (FERNALD, M.L.; LONG, B.
AND FOGG-JR., J.M., 1374. 20 JUL 1929)
F 1481645 ISOTYPE
GH HOLOTYPE
287. **LARENSIS** STEYERMARK, J.A., FIELDIANA, BOT. 28:66, FIG.8. 1951.
VENEZUELA: LARA: BETWEEN BUENOS AIRES AND PARAMO DE LAS ROSAS
(STEYERMARK, J.A., 55470. 11 FEB 1944)
F 55470 HOLOTYPE
US 1932015 ISOTYPE
288. **LARICINA** MACKENZIE, K.K. EX BRIGHT, J., TRILLIA 9:4, 19. 1930.
USA: INDIANA: KOSCIUSKO CO.: LEESBURG (DEAM, C.C., 10927.
C5 JUN 1912)
NY TYPE
289. **LASIOCARPA VAR. AMERICANA** FERNALD, M.L., RHODORA 44:304. 1942.
CANADA: NOVA SCOTIA: YARMOUTH CO.: ARGYLE (PEASE, A.S. AND
LONG, B., 20519. 09 JUL 1920)
GH HOLOTYPE
290. **LATEBRACTEATA** WATERFALL, U.T., RHODORA 56:23. 1954.
USA: OKLAHOMA: MCCURTAIN CO.: BROKEN BOW (WATERFALL, U.T.,
11380. 19 APR 1953)
CAS 384438 ISOTYPE
GH ISOTYPE
MO 1692174 ISOTYPE
291. **LAXIFLORA VAR. LEPTONERVIA** FERNALD, M.L., RHODORA 8:184. 1906.
USA: MAINE: AROOSTOOK CO.: FORT FAIRFIELD (FERNALD, M.L., 146.
06 JUL 1893)
F 267758 ISOTYPE
GH HOLOTYPE
MO ISOTYPE
NY ISOTYPE
292. **LAXIFLORA VAR. SERRULATA** HERMANN, F.J., RHODORA 40:80. 1938.
USA: INDIANA: CLARK CO.: -- (DEAM, C.C., 6458. 25 MAY 1910)
GH HOLOTYPE
NY ISOTYPE
293. **LEAVENWORTHII** DEWEY, C., AMER. J. SCI. ARTS SER.2, 2:246. 1846.
USA: LOUISIANA: -- (LEAVENWORTH, M.C., ---. -- --- 1845)
NY TYPE COLLECTION
294. **LEIOCARPA** MEYER, C.A.,
MEM. ACAD. IMP. SCI. ST.-PETERSBOURG DIVERS SAVANS 1:208, PL.5.
1831.
USA: ALASKA: SITKA (MERTENS, C.H., ---. ---)
GH ISOTYPE

295. **LEIOPHYLLA MACKENZIE**, K.K., N. AMER. FL. 18:365. 1935.
CANADA: YUKON TERRITORY: CARCROSS (EASTWOOD, A., 725A.
16 JUL 1914)
CAS 102481 ISOTYPE
GH ISOTYPE
US 538796 HOLOTYPE
296. **LEMANNIANA VAR. SIMPLEX** KUKENTHAL, G. IN ENGLER, H.G.A., PFLANZENR. 4, FAM. 20:405. 1909.
COSTA RICA: --: CERRO DE BUENA VISTA (PITTIER, H. AND TONDUZ, A., 3381. 19 JAN 1891)
CAS 264341 SYNTYPE
297. **LEMMONI** BOOTT, W., BOT. GAZ. 9:93. 1884.
USA: CALIFORNIA: SIERRA NEVADA RANGE (LEMMON, J.G., ---. -- --- 1875)
GH TYPE COLLECTION
US 29211 TYPE COLLECTION
298. **LENTICULARIS VAR. PAULLIFRUCTUS** KUKENTHAL, G. IN ENGLER, H.G.A., PFLANZENR. 4, FAM. 20:308. 1909.
USA: WASHINGTON: WHITMAN CO.: PALOUSE CREEK (ELMER, A.D.E., 881. -- JUN 1897)
NY ISOTYPE
299. **LEPORINA VAR. AMERICANA** OLNEY, S.T. EX BAILEY, L.H., PROC. AMER. ACAD. ARTS 22:152. 1886 ("1887").
USA: OREGON: CLACKAMAS CO.: MOUNT HOOD (HALL, E., 583. 01 AUG 1871)
F 455706 TYPE COLLECTION
F 1425899 TYPE COLLECTION
GH TYPE COLLECTION
MO TYPE COLLECTION
NY TYPE COLLECTION
300. **LEPORINELLA MACKENZIE**, K.K., BULL. TORREY BOT. CLUB 43:605. 1916.
USA: CALIFORNIA: EL DORADO CO.: PYRAMID PEAK (HALL, H.M. AND CHANDLER, H.A., 4716. 01-02 AUG 1903)
DS 490443 ISOTYPE
GH ISOTYPE
UC 55234 HOLOTYPE
301. **LEPTOPODA MACKENZIE**, K.K. IN RYDBERG, P.A., FL. ROCKY MOUNT. 124, 1060. 1917.
USA: OREGON: CLACKAMAS CO.: OSWEGO, ELK ROCK (HELLER, A.A., 10052. 20 MAY 1910)
CAS 186427 ISOTYPE
DS 13923 ISOTYPE
NY TYPE
302. **LIMNOPHILA HERMANN**, F.J., LEAFL. W. BOT. 8:28. 1956.
USA: WYOMING: SUBLETTE CO.: PINEDALE (HERMANN, F.J., 12252.

21 AUG 1955)
US 2231577 HOLOTYPE

303. **LIVIDA VAR. RUFINAEFORMIS** FERNALD, M.L., RHODORA 28:8. 1926.
CANADA: NEWFOUNDLAND: STRAIT OF BELLE ISLE, FOUR-MILE COVE
(FERNALD, M.L.; WIEGAND, K.M. AND LONG, B., 27673. 20 JUL 1925)
GH HOLOTYPE
304. **LONGICRURIS VAR. HENRYI** CLARKE, C.B., J. LINN. SOC., BOT. 36:295.
1903.
CHINA: HUPEH: -- (HENRY, A., 4266. ---)
US 800846 SYNTYPE
305. **LONGICULMIS** PETRIE, D., TRANS. & PROC. NEW ZEALAND INST. 14:363.
1882.
NEW ZEALAND: OTAGO (DISTRICT): SOUTHLAND SUBDIVISION: STEWART
ISLAND, PATTERSONS INLET (PETRIE, D., ---. -- JAN 1880)
GH ISOTYPE
306. **LONGIROSTRIS VAR. MICROCYSTIS** BOECKELER, J.O., LINNAEA 41:241.
1877.
CANADA: MANITOBA: WINNIPEG (BOURGEAU, E., ---.
-- --- 1857-1859)
NY TYPE COLLECTION
307. **LUNELLIANA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 42:615. 1915.
USA: MISSOURI: JACKSON CO.: OAK GROVE (BUSH, B.F., 7020.
02 JUN 1913)
NY TYPE
308. **LUZULAEFOLIA VAR. STROBILANTHA** HOLM, H.T., AMER. J. SCI.
SER. 4, 20:305. 1905.
USA: CALIFORNIA: NEVADA CO.: DONNER PASS; ALT. 7500 FT.
(HELLER, A.A., 7187. 17 AUG 1903)
CAS 136 ISOTYPE
CAS 231121 ISOTYPE
309. **LUZULINA** OLNEY, S.T. IN GRAY, A., PROC. AMER. ACAD. ARTS 7:395.
1868.
USA: CALIFORNIA: MENDOCINO CO.: MENDOCINO CITY (BOLANDER, H.N.,
4740. -- --- 1866)
CAS 384084 ISOTYPE
DS 76794 ISOTYPE
GH TYPE COLLECTION
MO TYPE MATERIAL
NY TYPE COLLECTION
US 964880 TYPE COLLECTION
- M-
310. **MACKENZIANA** WEATHERBY, C.A., CONTR. GRAY HERB. 114:36. 1936.

- MEXICO: NUEVO LEON: GALEANA (MULLER, C.H. AND MULLER, M.T., 892.
28 JUN 1934)
CAS 264346 ISOTYPE
GH HOLOTYPE
US 1746479 ISOTYPE
311. **MACROGLOSSA** FRANCHET, A. AND SAVATIER, L., ENUM. PL. JAP. 2:148, 576.
1879.
JAPAN: KANAGAWA (PREFECTURE): HONSHU (ISLAND), YOKOSUKA
(SAVATIER, L., 1414. -- --- 1866-1874)
US 27238 TYPE MATERIAL
312. **MACROKOLEA** STEUDEL, E.G., SYN. PL. GLUM. 2:223. 1855.
USA: LOUISIANA: ORLEANS PARISH: NEW ORLEANS (DRUMMOND, T., 420.
-- --- 1832)
NY COTYPE
313. **MACROSPERMA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 36:477. 1909.
MEXICO: OAXACA: SIERRA DE SAN FELIPE; ALT. 6000-7000 FT.
(PRINGLE, C.G., 4840. 27 AUG 1894)
NY TYPE
314. **MADRENSIS** BAILEY, L.H., BOT. GAZ. 25:270. 1898.
MEXICO: DURANGO: SIERRA MADRE OCCIDENTAL (ROSE, J.N., 2357.
16 AUG 1897)
NY ISOTYPE
US 301267 TYPE
315. **MAGNIFOLIA** MACKENZIE, K.K. IN SMALL, J.K., FL. SE. U.S. ED. 2, 1325.
1913.
USA: FLORIDA: -- (CHAPMAN, A.W., ---. ---)
US 969118 TYPE MATERIAL
316. **MANDONIANA** BOECKELER, J.O., ALLG. BOT. Z. SYST. 2:174. 1896.
BOLIVIA: --: -- (MANDON, G., 1429. ---)
NY ISOTYPE
317. **MARCIDA** VAR. **DEBILIS** BAILEY, L.H., PROC. AMER. ACAD. ARTS 22:136.
1886 ("1887").
USA: OREGON: HARNEY CO.: HARNEY VALLEY (HOWELL, T.J., 937.
27 MAY 1885)
F 206587 TYPE COLLECTION
NY TYPE
318. **MARIPOSANA** BAILEY, L.H., BULL. TORREY BOT. CLUB 43:619. 1916.
USA: CALIFORNIA: TUOLUMNE CO.: YOSEMITE NATIONAL PARK,
TUOLUMNE MEADOWS (JEPSON, W.L., 4476. 20 JUL 1911)
JEPS 19722 ISOTYPE
NY HOLOTYPE
319. **MEADII** DEWEY, C., AMER. J. SCI. ARTS SER. 1, 43:90. 1842.
USA: ILLINOIS: HANCOCK CO.: AUGUSTA (MEAD, S.B., ---. ---)
CAS 553885 ISOTYPE

GH	HOLOTYPE
MO	ISOTYPE
NY	ISOTYPE

320. **MEDITERRANIA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 33:441. 1906.
 USA: DISTRICT OF COLUMBIA: WASHINGTON (STEELE, E.S., ---.
 23 MAY 1898)
 NY TYPE
321. **MEEKII** DEWEY, C., AMER. J. SCI. ARTS SER. 2, 24:48. 1857.
 USA: NEBRASKA: WHITE RIVER (HAYDEN, F.V., ---. ---)
 GH TYPE COLLECTION
322. **MELANOPHORA** BLAKE, S.T., J. ARNOLD ARBOR. 28:106. 1947.
 INDONESIA: WEST NEW GUINEA: ORANGE RANGE, MOUNT WILHELMINA;
 (COUNTRY AS "DUTCH NEW GUINEA") (BRASS, L.J. AND
 MEYER-DREES, E., 9828. -- SEP 1938)
 A ISOTYPE
323. **MELOZITNENSIS** PORSILD, A.E., RHODORA 41:209. 1939.
 USA: ALASKA: KOKRINES MOUNTAINS, MELOZITNA RIVER (PORSILD, A.E.
 AND PORSILD, R.T., 713. 23 JUN-05 JUL 1926)
 GH ISOTYPE
 US 1789621 ISOTYPE
324. **MENDOCINENSIS** OLNEY, S.T. EX BOOTT, W. IN WATSON, S.,
 GEOL. SURV. CALIFORNIA, BOT. 2:249. 1880.
 USA: CALIFORNIA: MENDOCINO CO.: MENDOCINO CITY (BOLANDER, H.N.,
 4701. -- --- 1866)
 CAS 553875 TYPE FRAGMENT
 DS 54832 ISOTYPE
 GH HOLOTYPE
 MO ISOTYPE
 NY ISOTYPE
 UC 1098 ISOTYPE
 US 29453 ISOTYPE
325. **MERCARENSIS** HOCHSTETTER, C.F. EX STEUDEL, E.G., SYN. PL. GLUM. 2:194.
 1855.
 INDIA: --: NILAGIRI (HOHENACKER, R.F., 943. -- --- 1851)
 A ISOTYPE
326. **MERRILLII** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG. 8:7. 1910.
 PHILIPPINES: BENGUET: LUZON (ISLAND), PAUAI (MERRILL, E.D.,
 6623. -- MAY 1909)
 NY TYPE MATERIAL
 US 711171 TYPE MATERIAL
327. **MERRITT-FERNALDII** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 49:370.
 1923.
 USA: MAINE: PENOBSCOT CO.: ORONO (FERNALD, M.L., ---.
 03 JUL 1897)
 GH HOLOTYPE

328. **MESOCHOREA MACKENZIE**, K.K., BULL. TORREY BOT. CLUB 37:246. 1910.
USA: DISTRICT OF COLUMBIA: WASHINGTON (STEELE, E.S., ---.
-- --- 1900)
GH ISOTYPE
329. **MICANS BOOTT**, F. IN GRAY, A., MEM. AMER. ACAD. ARTS N.S., 6:419.
1859.
JAPAN: --: SINODA (WRIGHT, C., ---. ---)
US 27281 TYPE MATERIAL
330. **MICRANTHA KUKENTHAL**, G., BULL. HERB. BOISSIER SER.2, 2:1018. 1902.
KOREA: --: KAM-OUEN (FAURIE, U., 919. 28 JUN 1901)
US 2501314 ISOTYPE
331. **MICROCHAETA HOLM**, H.T., AMER. J. SCI. SER.4, 17:305. 1904.
CANADA: YUKON TERRITORY: KLONDIKE, INDIAN DIVIDE (MACOUN, JOHN,
53877. 14 AUG 1902)
GH ISOTYPE
332. **MICROGLOCHIN SSP. FUEGINA KUKENTHAL**, G., BOT. JAHRB. SYST. 27:546.
1899.
CHILE: MAGALLANES: TIERRA DEL FUEGO ("FUEGIA"), ORANGE HARBOR
(WILKES EXPLOR. EXPED., ---. -- --- 1838-1842)
US 30695 ISOTYPE
333. **MICROPTERA MACKENZIE**, K.K., MUHLENBERGIA 5:56. 1909.
USA: NEVADA: ELKO CO.: DEETH (HELLER, A.A., 9067. 21 JUL 1908)
CAS 234896 ISOTYPE
NY TYPE
334. **MICROPTERA VAR. CRASSINERVIA HERMANN**, F.J., RHODORA 70:420. 1968.
USA: COLORADO: OURAY CO.: ENGINEER PASS (JOHNSON, W.M., 594.
14 AUG 1967)
US 2543807 HOLOTYPE
335. **MILIARIS VAR. AUREA BAILEY**, L.H., MEM. TORREY BOT. CLUB 1:37. 1889.
CANADA: NEW BRUNSWICK: KING'S CO.: KENNEBECASIS RIVER
(FOWLER, J., ---. ---)
GH HOLOTYPE
336. **MIRABILIS DEWEY**, C., AMER. J. SCI. ARTS SER.1, 30:63. 1836.
USA: MASSACHUSETTS: FRANKLIN CO.: DEERFIELD (DEWEY, C., ---.
---)
GH HOLOTYPE
337. **MIRABILIS VAR. PERLONGA FERNALD**, M.L., PROC. AMER. ACAD. ARTS
37:473, PL.2. 1902.
USA: NEW HAMPSHIRE: HILLSBORO CO.: NEW IPSWICH (FERNALD, M.L.,
---. 05 JUN 1896)
GH SYNTYPE
338. **MIRABILIS VAR. TINCTA FERNALD**, M.L., PROC. AMER. ACAD. ARTS 37:473.

1902.

CANADA: NEW BRUNSWICK: SAINT JOHN RIVER (MACOUN, JOHN, 22.
04 JUL 1899)

GH

SYNTYPE

339. MISANDROIDES FERNALD, M.L., RHODORA 17:158. 1915.

CANADA: NEWFOUNDLAND: PORT AU PORT BAY, TABLE MOUNTAIN
(ST. JOHN, H. AND FERNALD, M.L., 10801. 16-17 JUL 1914)

GH

HOLOTYPE

NY

ISOTYPE

340. MISERA BUCKLEY, S.B., AMER. J. SCI. ARTS SER. 1, 45:173. 1843.

USA: NORTH CAROLINA: MITCHELL CO.: ROAN MOUNTAIN (BUCKLEY, S.B.,
---. ---)

NY

ISOTYPE

341. MISERABILIS MACKENZIE, K.K., N. AMER. FL. 18:385. 1935.

USA: WASHINGTON: CHELAN CO.: CHIWAUKUM LAKE (EGGLESTON, W.W.,
13567. 19-20 AUG 1916)

US

886422 HOLOTYPE

342. MOHRIANA MACKENZIE, K.K., N. AMER. FL. 18:106. 1931.

USA: FLORIDA: HARDEE CO.: WAUCHULA (CURTISS, A.H., 6761.
15 APR 1901)

NY

HOLOTYPE

US

2133195 ISOTYPE

343. MOLESTA MACKENZIE, K.K., N. AMER. FL. 18:151. 1931.

USA: KANSAS: WYANDOTTE CO.: QUINDARO (MACKENZIE, K.K., ---.
30 MAY 1897)

NY

HOLOTYPE

344. MONTANENSIS BAILEY, L.H., BOT. GAZ. 17:152. 1892.

USA: MONTANA: FLATHEAD CO.: UPPER MARAIS PASS (CANBY, W.M., 350.
03 AUG 1883)

NY

SYNTYPE

US

23257 SYNTYPE

345. MONTEREYENSIS MACKENZIE, K.K., ERYTHEA 8:92. 1922.

USA: CALIFORNIA: MONTEREY CO.: PACIFIC GROVE (SMITH, C.P., 1055.
24 JUL 1905)

GH

HOLOTYPE

346. MORRISSEYI PORSILD, A.E., SARGENTIA 4:21. 1943.

CANADA: NEWFOUNDLAND: LABRADOR, CAPE MUGFORD (PORSILD, A.E.,
173. 26 AUG 1937)

US

2095886 ISOTYPE

347. MULTICOSTATA MACKENZIE, K.K., BULL. TORREY BOT. CLUB 43:604. 1916.

USA: CALIFORNIA: SAN BERNARDINO CO.: SAN BERNARDINO MOUNTAINS,
BEAR VALLEY DAM (PARISH, S.B., 3609. -- JUN 1895)

DS

489409 HOLOTYPE

348. *MURICULATA* HERMANN, F.J. IN MCVAUGH, R., FIELD & LAB. 17:132. 1949.
USA: TEXAS: CULBERSON CO.: GUADALUPE MOUNTAINS, MCKITTRICK
CANYON (MOORE, J.A. AND STEYERMARK, J.A., 3625. 25 JUL 1931)
CAS 194659 ISOTYPE
- N-
349. *NANA* BOOTT, F. IN GRAY, A., MEM. AMER. ACAD. ARTS N.S., 6:418. 1859.
JAPAN: HOKKAIDO (PREFECTURE): HAKODATE (WRIGHT, C., ---.
-- --- 1853-1856)
NY TYPE MATERIAL
US 27280 TYPE MATERIAL
350. *NEBRASKENSIS* DEWEY, C., AMER. J. SCI. ARTS SER. 2, 18:102. 1854.
USA: NEBRASKA: -- (HAYDEN, F.V., ---. ---)
NY ISOTYPE
351. *NEBRASKENSIS* VAR. *ERUCAEFORMIS* SUKSDORF, W.N., WERDENDA 1:5. 1923.
USA: WASHINGTON: KLICKITAT CO.: FALCON VALLEY (SUKSDORF, W.N.,
10249. 22 JUN 1919)
DS 171453 ISOTYPE
MO 952735 TYPE COLLECTION
NY ISOTYPE
US 1438017 TYPE COLLECTION
352. *NEBRASKENSIS* VAR. *ULTRIFORMIS* BAILEY, L.H., BOT. GAZ. 21:8. 1896.
USA: WASHINGTON: ADAMS CO.: RITZVILLE (SANDBERG, J.H. AND
LEIBERG, J.B., 194. 09 JUN 1893)
NY ISOTYPE
353. *NELSONII* MACKENZIE, K.K. IN RYDBERG, P.A., FL. ROCKY MOUNT.
137, 1060. 1917.
USA: WYOMING: LA PLATA MINES (NELSON, A. AND NELSON, E., 5264.
30 AUG 1898)
GH ISOTYPE
NY HOLOTYPE
354. X *NEOBIGELOWII* LEPAGE, E., NATURALISTE CANAD. 91:166. 1964.
CANADA: QUEBEC: SAGUENAY CO.: ROMAINE RIVER (DUTILLY, A. AND
LEPAGE, E., 41,305A. 12 AUG 1963)
GH ISOTYPE
NY ISOTYPE
US 2433719 ISOTYPE
355. X *NEOFILIPENDULA* LEPAGE, E., NATURALISTE CANAD. 83:123. 1956.
CANADA: NEWFOUNDLAND: BONNE BAY, MAIN RIVER, MAIN ARM
(FERNALD, M.L.; LONG, B. AND FOGG-JR., J.M., 1449. 19 AUG 1929)
GH HOLOTYPE
356. *NEOMEXICANA* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 34:153. 1907.
USA: NEW MEXICO: SANTA RITA DEL COBRA (BIGELOW, J.M., 1547.

---)

NY

TYPE COLLECTION

357. X **NEOPALEACEA** LEPAGE, E., NATURALISTE CANAD. 83:137. 1956.
CANADA: QUEBEC: PAINT HILLS (DUTILLY, A.; LEPAGE, E. AND
DUMAN, M., 32975. 03 SEP 1954)
GH ISOTYPE
US 2176496 ISOTYPE
358. **NERVINA** BAILEY, L.H., BOT. GAZ. 10:203. 1885.
USA: CALIFORNIA: SIERRA NEVADA RANGE, SUMMIT CAMP (KELLOGG, A.,
---. 10 JUL 1870)
GH HOLOTYPE
US 286861 ISOTYPE
359. **NEUROPHORA** MACKENZIE, K.K. IN ABRAMS, L., ILL. FL. PACIFIC STATES
1:298, FIG. 706. 1923.
USA: WASHINGTON: CHELAN CO.: CASCADE MOUNTAINS, STEVENS PASS
(SANDBERG, J.H. AND LEIBERG, J.B., 773. 18 AUG 1893)
GH ISOTYPE
NY ISOTYPE
360. **NIGRICANS** MEYER, C.A.,
MEM. ACAD. IMP. SCI. ST.-PETERSBOURG DIVERS SAVANS 1:210, PL. 7.
1831.
USA: ALASKA: ALEUTIAN ISLANDS, UNALASKA (ISLAND)
(CHAMISSO, L.A., ---. ---)
GH ISOTYPE
361. **NIGRO-MARGINATA** SCHWEINITZ, L.D., ANN. LYCEUM NAT. HIST. NEW YORK
1:68. 1824.
USA: NORTH CAROLINA: FORSYTH CO.: WINSTON-SALEM ("SALEM")
(DOS, L., ---. ---)
NY TYPE COLLECTION
362. **NOVAE-ANGLIAE** SCHWEINITZ, L.D., ANN. LYCEUM NAT. HIST. NEW YORK
1:67. 1824.
USA: MASSACHUSETTS: BERKSHIRE CO.: WILLIAMSTOWN, SADDLE
MOUNTAIN (DEWEY, C., ---. -- --- 1822)
GH ISOTYPE
363. X **NUBENS** LEPAGE, E., NATURALISTE CANAD. 84:40. 1957.
CANADA: QUEBEC: JAMES BAY, EASTMAIN (LEPAGE, E., 33131.
27 JUL 1955)
GH ISOTYPE
364. **NUBICOLA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 36:480. 1909.
USA: COLORADO: MINERAL CO.: PAGOSA PEAK (BAKER, C.F., 232.
-- AUG 1899)
GH ISOTYPE
365. **NUDATA** BOOTT, W. IN WATSON, S., GEOL. SURV. CALIFORNIA, BOT. 2:241.
1880.

USA: CALIFORNIA: MARISS (BOLANDER, H.N., 2299.

-- --- 1860-1867)

MO

TYPE MATERIAL

366. *NUDATA* VAR. *FIRMIOR* KUKENTHAL, G. IN ENGLER, H.G.A., PFLANZENR. 4, FAM. 20:337. 1909.

USA: ARIZONA: WILLOW SPRINGS (PALMER, E., 546. -- JUN 1890)

DS

ISOTYPE

367. *NUTANS* VAR. *JAPONICA* FRANCHET, A. AND SAVATIER, L., ENUM. PL. JAP. 2:154. 1879.

JAPAN: KANAGAWA (PREFECTURE): HONSHU (ISLAND), YOKOSUKA

(SAVATIER, L., 1404. -- --- 1866-1874)

US

31277 TYPE MATERIAL

368. *NUTTALLII* DEWEY, C., AMER. J. SCI. ARTS SER. 1, 43:92. 1842.

USA: --: ROCKY MOUNTAINS (NUTTALL, T., 17. ---)

GH

HOLOTYPE

NY

ISOTYPE

-0-

369. *OAXACANA* BAILEY, L.H., BOT. GAZ. 25:271. 1898.

MEXICO: OAXACA: SIERRA DE SAN FELIPE (PRINGLE, C.G., 4842.

29 AUG 1894)

GH

ISOTYPE

MO

TYPE COLLECTION

US

251772

TYPE COLLECTION

US

817656

TYPE COLLECTION

370. *OBISPOENSIS* STACEY, J.W., LEAFL. W. BOT. 1:240. 1936.

USA: CALIFORNIA: SAN LUIS OBISPO CO.: SAN LUIS OBISPO, STEINER CREEK (EASTWOOD, A. AND HOWELL, J.T., 2271. 07 MAY 1936)

CAS

235733

HOLOTYPE

CAS

237824

ISOTYPE

CAS

237908

ISOTYPE

DS

270930

ISOTYPE

F

866418

ISOTYPE

GH

ISOTYPE

NY

ISOTYPE

US

1678188

ISOTYPE

371. *OBLANCEOLATA* KOYAMA, T., WILLDENOWIA 5(3):489. 1969.

CHINA: KWANGTUNG: CHUNG TUNG, TAI TSANG, YING TAK (TAK, T.W. AND CHOW, W.K., 3202. 20 NOV 1926)

UC

319673

HOLOTYPE

372. *OBOVOIDEA* CRONQUIST, A., MADRONO 7:78. 1943.

USA: IDAHO: CUSTER CO.: STANLEY (CRONQUIST, A., 2872.

03 JUL 1941)

GH

ISOTYPE

MO 1220830 TYPE MATERIAL

373. **OEDERI VAR. ROUSSEAUIANA** MARIE-VICTORIN, (FRERE),
 PROC. & TRANS. ROY. SOC. CANADA SER.3, 23(2), SECT.5:262.
 1929.
 CANADA: QUEBEC: MONTMAGNY CO.: L'ESTUAIRE DU ST. LAURENT,
 BERTHIER-EN-BAS (ROUSSEAU, J., 24989. 27 JUL 1926)
 NY TYPE
374. **OKLAHOMENSIS** MACKENZIE, K.K., TORREYA 14:126. 1914.
 USA: OKLAHOMA: CATALE (BUSH, B.F., 993. 22 MAY 1895)
 MO TYPE MATERIAL
 NY TYPE
375. **OLIGANTHA** BOOTT, F., ILL. GENUS CAREX 4:174, PL.589. 1867.
 CHILE: MAGALLANES: TIERRA DEL FUEGO ("FUEGIA"), ORANGE HARBOR
 (WILKES EXPLOR. EXPED., ---. -- --- 1838-1842)
 US 30695 ISOTYPE
376. **OLIGOCARPA VAR. LATIFOLIA** GRAY, A. EX TORREY, J.,
 ANN. LYCEUM NAT. HIST. NEW YORK 3:415. 1836.
 USA: NEW YORK: JEFFERSON CO.: WATERTOWN (CRAWE, J.B., ---. ---)
 GH HOLOTYPE
377. **OLYMPICA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 43:610. 1916.
 USA: WASHINGTON: CLALLAM CO.: OLYMPIC MOUNTAINS (ELMER, A.D.E.,
 2700. -- JUN 1900)
 NY SYNTYPE
378. **ONUSTA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 42:618. 1915.
 USA: TEXAS: TARRANT CO.: -- (RUTH, A., 458. 24 APR 1914)
 CAS 351152 ISOTYPE
 NY TYPE
 US 504456 ISOTYPE
379. **OREGONENSIS** OLNEY, S.T. EX BAILEY, L.H., PROC. AMER. ACAD. ARTS
 22:73. 1886 ("1887").
 USA: OREGON: -- (HALL, E., 605. -- --- 1871)
 F 455736 SYNTYPE
 NY SYNTYPE
380. **ORMOSTACHYA** WIEGAND, K.M., RHODORA 24:196. 1922.
 USA: NEW HAMPSHIRE: GRAFTON CO.: FRANCONIA, LITTLETON HILL
 (FAXON, E. AND FAXON, C.E., ---. 27 MAY 1896)
 GH HOLOTYPE
381. **ORONENSIS** FERNALD, M.L., PROC. AMER. ACAD. ARTS
 37:471, PL.1, FIG.15,16. 1902.
 USA: MAINE: PENOBSCOT CO.: ORONO (FERNALD, M.L., ---.
 30 JUN 1891)
 GH HOLOTYPE
 NY ISOTYPE

382. *OXYCARPA* HOLM, H.T., AMER. J. SCI. SER. 4, 20:303. 1905.
 USA: WASHINGTON: KLUCKITAT CO.: COLUMBIA (SUKSDORF, W.N., 816.
 02 JUN 1885)
 F 96129 TYPE MATERIAL
 F 211365 TYPE MATERIAL
 US 27292 TYPE MATERIAL
383. *OXYLEPIS* VAR. *PUBESCENS* UNDERWOOD, J.K., AMER. MIDL. NATURALIST
 33:635. 1945.
 USA: TENNESSEE: CHEATHAM CO.: PEGRAM (SVENSON, H.K., 10469.
 12 JUL 1939)
 NY TYPE COLLECTION
- P-
384. *PACHYCARPA* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 43:616. 1916.
 USA: CALIFORNIA: ALPINE CO.: SILVER VALLEY, BIG TREE ROAD;
 ALT. 8000 FT. (BREWER, W.H., 1977. 31 JUL 1863)
 UC 1060 HOLOTYPE
385. *PACHYSTACHYA* CHAMISSE, L.A. EX STEUDEL, E.G., SYN. PL. GLUM. 2:197.
 1855.
 USA: ALASKA: ALEUTIAN ISLANDS, UNALASKA (ISLAND)
 (CHAMISSE, L.A., ---. ---)
 GH ISOTYPE
386. *PACHYSTOMA* HOLM, H.T., AMER. J. SCI. SER. 4, 20:302. 1905.
 USA: OREGON: KLAMATH CO.: CRATER LAKE NATIONAL PARK, ANNA
 CREEK CANYON (COVILLE, F.V., 1362. 03 SEP 1902)
 US 415172 TYPE
387. *PADDOENSIS* SUKSDORF, W.N., ALLG. BOT. Z. SYST. 12:43. 1906.
 USA: WASHINGTON: YAKIMA CO.: MOUNT ADAMS ("PADDO")
 (SUKSDORF, W.N., 1296. 13 AUG 1897)
 F 223512 TYPE MATERIAL
 F 1471489 TYPE MATERIAL
 GH ISOTYPE
 NY ISOTYPE
 US 529528 TYPE MATERIAL
388. *PALAWANENSIS* KUKENTHAL, G. IN ELMER, A.D.E., LEAFL. PHILIPP. BOT.
 4:1169. 1911.
 PHILIPPINES: PALAWAN: PUERTO PRINCESA, MOUNT PULGAR
 (ELMER, A.D.E., 13146. -- MAY 1911)
 GH ISOTYPE
 NY TYPE MATERIAL
 US 872800 TYPE MATERIAL
389. *PALLESCENS* VAR. *NEOGAEA* FERNALD, M.L., RHODORA 44:306, PL. 712.
 1942.
 CANADA: NEWFOUNDLAND: GANDER RIVER VALLEY, GLENWOOD

(FERNALD, M.L. AND WIEGAND, K.M., 4918. 12-13 JUL 1911)
GH HOLOTYPE

390. **PANSA** BAILEY, L.H., BOT. GAZ. 13:82. 1888.
USA: OREGON: CLATSOP CO.: CLATSOP (HENDERSON, L.F., 1482.
31 JUL 1886-20 AUG 1887)
DS 490462 SYNTYPE
NY SYNTYPE
391. **PAPULOSA** BOOTT, F. IN GRAY, A., MEM. AMER. ACAD. ARTS N.S., 6:418.
1859.
JAPAN: HOKKAIDO (PREFECTURE): HAKODATE (WRIGHT, C., ---.
-- --- 1853-1856)
GH HOLOTYPE
NY ISOTYPE
US 31344 ISOTYPE
392. **PARCIFLORA** BOOTT, F., MEM. AMER. ACAD. ARTS N.S., 6:418. 1859.
JAPAN: HOKKAIDO (PREFECTURE): HAKODATE (WRIGHT, C., ---. ---)
US 27275 TYPE MATERIAL
393. **PARRYANA** DEWEY, C., AMER. J. SCI. ARTS SER.1, 27:239. 1835.
CANADA: --: HUDSON BAY (RICHARDSON, J., ---. ---)
NY TYPE COLLECTION
394. **X PATUENSIS** LEPAGE, E., NATURALISTE CANAD. 89:113, FIG.1. 1962.
CANADA: QUEBEC: UNGAVA BAY, LAKE PATU (DUTILLY, A. AND
LEPAGE, E., 39329: 19 AUG 1961)
GH ISOTYPE
395. **PAUCICOSTATA** MACKENZIE, K.K., ERYTHEA 8:74. 1922.
USA: CALIFORNIA: MARIPOSA CO.: YOSEMITE NATIONAL PARK,
YOSEMITE VALLEY (BOLANDER, H.N., 6198. -- JUL 1866)
DS 49738 TYPE COLLECTION
F 309086 TYPE MATERIAL
MO TYPE MATERIAL
NY TYPE COLLECTION
396. **PAUPERCULA** VAR. **BREVISQUAMA** FERNALD, M.L., RHODORA 20:152. 1918.
CANADA: QUEBEC: ILE AUX COUDRES (MARIE-VICTORIN, (FRERE), 4021.
-- JUN 1917)
GH HOLOTYPE
397. **PAUPERCULA** VAR. **PALLENS** FERNALD, M.L., RHODORA 8:77. 1906.
USA: MAINE: OXFORD CO.: BUCKFIELD (ALLEN, J.A., 21A.
01 JUL 1878)
GH HOLOTYPE
398. **PAYSONIS** CLOKEY, I.W., AMER. J. SCI. SER.5, 3:90, PL.2. 1922.
USA: WYOMING: TETON CO.: GRAND TETON NATIONAL PARK, JACKSON
HOLE VALLEY (PAYSON, E.B. AND PAYSON, L.B., 2224. 06 AUG 1920)
GH ISOTYPE
UC 905434 HOLOTYPE

399. PELOCARPA HERMANN, F.J., RHODORA 39:492. 1937.
USA: UTAH: SUMMIT CO.: LAMOTTE PEAK (HERMANN, F.J., 5983.
15 AUG 1933)
CAS 239452 ISOTYPE
NY HOLOTYPE
400. PERCOSTATA HERMANN, F.J., J. WASH. ACAD. SCI. 40:282. 1950.
MEXICO: CHIHUAHUA: MADERA (MULLER, C.H., 3520. 27 SEP 1939)
CAS 369422 ISOTYPE
US 2133207 TYPE
401. PERGLOBOSA MACKENZIE, K.K., BULL. TORREY BOT. CLUB 34:606. 1907.
USA: COLORADO: SUMMIT CO.: MOUNT BALDY, BRECKENRIDGE
(MACKENZIE, K.K., 167. -- AUG 1901)
MO TYPE MATERIAL
NY HOLOTYPE
402. PERILEIA BLAKE, S.T., J. ARNOLD ARBOR. 28:102. 1947.
INDONESIA: WEST NEW GUINEA: LAKE HABBEMA; (COUNTRY AS "DUTCH
NEW GUINEA") (BRASS, L.J., 9583. -- AUG 1938)
A ISOTYPE
403. PERLONGA FERNALD, M.L., PROC. AMER. ACAD. ARTS 43:61. 1907.
MEXICO: HIDALGO: TRINIDAD IRON WORKS; ALT. 1585 M.
(PRINGLE, C.G., 8863. 02 JUN 1904)
CAS 155657 ISOTYPE
CAS 193005 ISOTYPE
F 178542 ISOTYPE
GH HOLOTYPE
MO ISOTYPE
NY ISOTYPE
US 461358 ISOTYPE
404. PERSTRICTA MACKENZIE, K.K., BULL. TORREY BOT. CLUB 36:479. 1909.
MEXICO: NUEVO LEON: MONTERREY (PRINGLE, C.G., 2630.
05 JUN 1889)
GH ISOTYPE
NY TYPE
405. PETASATA DEWEY, C., AMER. J. SCI. ARTS SER.1, 29:246. 1836.
USA: --: ROCKY MOUNTAINS (DRUMMOND, T., ---. ---)
NY TYPE
406. PETRICOSA DEWEY, C., AMER. J. SCI. ARTS SER.1, 29:246. 1836.
USA: --: ROCKY MOUNTAINS (DRUMMOND, T., ---. ---)
NY TYPE
407. PETRIEI CHEESEMAN, T.F., TRANS. & PROC. NEW ZEALAND INST. 16:413.
1884.
NEW ZEALAND: CANTERBURY (DISTRICT): SOUTH ISLAND, BROKEN RIVER
(CHEESEMAN, T.F., ---. -- JAN 1883)
GH ISOTYPE

408. *PHAEOCEPHALA* PIPER, C.V., CONTR. U.S. NATL. HERB. 11:172. 1906.
 USA: OREGON: CLACKAMAS CO.: MOUNT HOOD (HALL, E., 583.
 01 AUG 1871)
 F 455706 TYPE COLLECTION
 F 1425899 TYPE COLLECTION
 GH TYPE COLLECTION
 MO TYPE COLLECTION
 NY TYPE COLLECTION
409. *PHAEOLEPIS* HOLM, H.T., AMER. J. SCI. SER. 4, 17:302. 1904.
 USA: OREGON: CROOK CO.: BEAR BUTTES (LEIBERG, J.B., 335.
 26 JUN 1894)
 NY ISOTYPE
410. *PHALAROIDES* VAR. *PARVULA* GROSS, R., REPERT. SP. NOV. REGNI VEG.
 50:211. 1941.
 ARGENTINA: JUJUY: TILCARA DEPT.: TILCARA (VENTURI, S., 6491.
 15 FEB 1927)
 US 1545831 TYPE
411. *PHILOCRENA* KRECZETOWICZ, V.I.,
 TRUDY SREDNE-AZIATSK. GOSUD. UNIV., SER. 8B, BOT. 17:75. 1934.
 USSR: TADZHIKISTAN: PAMIRS; ALT. 8200 FT. (LIPSKY, V.I., 2732.
 19 JUL 1899)
 NY TYPE MATERIAL
412. *PHYLLOMANICA* BOOTT, W. IN WATSON, S., GEOL. SURV. CALIFORNIA, BOT.
 2:233. 1880.
 USA: CALIFORNIA: MENDOCINO CO.: MENDOCINO CITY (BOLANDER, H.N.,
 4746. -- --- 1866)
 GH HOLOTYPE
 MO ISOTYPE
 NY ISOTYPE
413. *PHYSOCHLAENA* HOLM, H.T., AMER. J. SCI. SER. 4, 17:317. 1904.
 USA: ALASKA: YUKON VALLEY, COAL CREEK HILL (FUNSTON, F., 139.
 30 JUL 1893)
 F 755322 TYPE MATERIAL
 MO 920815 TYPE COLLECTION
 NY TYPE COLLECTION
414. *PICTA* BOOTT, F. IN GRAY, A., MEM. AMER. ACAD. ARTS N.S., 6:418.
 1859.
 JAPAN: HOKKAIDO (PREFECTURE): HAKODATE (WRIGHT, C., ---. ---)
 US 31374 TYPE MATERIAL
415. *PICTA* STEUDEL, E.G., SYN. PL. GLUM. 2:184. 1855.
 USA: LOUISIANA: ORLEANS PARISH: NEW ORLEANS (DRUMMOND, T., ---.
 ---)
 NY TYPE COLLECTION
416. *PINETORUM* VAR. *ELATIOR* KUKENTHAL, G. IN ENGLER, H.G.A., PFLANZENR.

- 4, FAM.20:195. 1909.
MEXICO: OAXACA: SIERRA DE SAN FELIPE; ALT. 10,000 FT.
(PRINGLE, C.G., 4685. 08 JUN 1894)
GH ISOTYPE
NY ISOTYPE
417. *PIPERI* MACKENZIE, K.K. IN PIPER, C.V. AND BEATTIE, R.K., FL. NW. COAST
75. 1915.
CANADA: BRITISH COLUMBIA: VANCOUVER ISLAND, CEDAR HILL
(MACOUN, JOHN, ---. 31 MAY 1887)
GH ISOTYPE
418. *PIRCHINCHENSIS* VAR. *SIMPLEX* GROSS, R., REPERT. SP. NOV. REGNI VEG.
50:211. 1941.
COLOMBIA: --: -- (MUTIS, J.C., KILLIP NO. 5715.
-- --- 1760-1808)
US 1563811 TYPE
419. *PITYOPHILA* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 40:545. 1913.
USA: NEW MEXICO: RIO ARriba CO.: TIERRA AMARILLA
(EGGLESTON, W.W., 6605. 18 APR-25 MAY 1911)
CAS 383889 ISOTYPE
NY TYPE MATERIAL
US 660821 TYPE
420. *PLANATA* FRANCHET, A. AND SAVATIER, L., ENUM. PL. JAP. 2:126, 555.
1879.
JAPAN: KANAGAWA (PREFECTURE): HONSHU (ISLAND), YOKOSUKA
(SAVATIER, L., 2059. -- --- 1866-1874)
US 27269 TYPE MATERIAL
421. *PLATYLEPIS* MACKENZIE, K.K., N. AMER. FL. 18:142. 1931.
USA: WYOMING: BIG HORN CO.: BIG HORN MOUNTAINS, TEN SLEEP LAKES
(WILLIAMS, T.A., 2951. 19 AUG 1897)
NY HOLOTYPE
422. *PLATYPHYLLA* CAREY, J., AMER. J. SCI. ARTS SER. 2, 4:23. 1847.
USA: NEW YORK: ("NOV. EBOR.") (CAREY, J., ---. ---)
GH TYPE MATERIAL
423. *PLECTOCARPA* HERMANN, F.J., LEAFL. W. BOT. 10:66. 1964.
USA: MONTANA: GLACIER CO.: GLACIER NATIONAL PARK, LOGAN PASS,
HIDDEN LAKE; ALT. 7300 FT. (HERMANN, F.J., 18120.
21 AUG 1962)
CAS 416360 ISOTYPE
US 2420276 HOLOTYPE
424. *PLUVICA* VAR. *KOOLAUENSIS* KRAUSS, R., PACIFIC SCI. 4:274. 1950.
USA: HAWAII: HONOLULU CO.: OAHU (ISLAND), KOOLAU MOUNTAINS
(HOSAKA, E.Y., 594. 04 JUL 1932)
US 2074725 TYPE MATERIAL
425. *PODOCARPA* BROWN, R. IN RICHARDSON, J. IN FRANKLIN, J.,

NARR. JOURNEY POLAR SEA 751. 1819.
 CANADA: --: -- (RICHARDSON, J., ---. ---)
 GH TYPE MATERIAL

426. *PODOGYNA* FRANCHET, A. AND SAVATIER, L., ENUM. PL. JAP. 2:131, 557. 1879.

JAPAN: TOKYO (PREFECTURE): TOKYO (SAVATIER, L., 1413.
 -- --- 1866-1874)
 US 27270 TYPE MATERIAL

427. *PORTERI* OLNEY, S.T., CARIC. BOR.-AMER. 12. 1871.

USA: MAINE: PISCATAQUIS CO.: MOUNT KINEO, MOOSEHEAD LAKE
 (PORTER, T.C., ---. 28 AUG 1871)
 GH HOLOTYPE

428. *POTOSINA* HEMSLEY, W.B., BIOL. CENTR.-AMER. 3:474. 1885.

MEXICO: SAN LUIS POTOSI: SAN LUIS POTOSI (SCHAFFNER, J.G., 546.
 -- --- 1877)
 GH ISOTYPE

429. *PRAECEPTORIUM* MACKENZIE, K.K., N. AMER. FL. 18:95. 1931.

USA: WASHINGTON: KLICKITAT CO.: SIMCOE MOUNTAINS, GOLDENDALE
 (PECK, M.E., 13. 13 AUG 1917)
 NY HOLOTYPE

430. *PRAEGRACILIS* BOOTT, W., BOT. GAZ. 9:87. 1884.

USA: CALIFORNIA: SAN DIEGO CO.: SAN DIEGO (SCOTT, (MISS), ---.
 -- --- 1880)
 GH HOLOTYPE

431. *PRAINII* CLARKE, C.B., J. LINN. SOC., BOT. 36:305. 1904.

CHINA: YUNNAN: RED RIVER (HENRY, A., 10839. ---)
 MO TYPE MATERIAL
 US 458108 TYPE MATERIAL

432. *PRAIREA* DEWEY, C. IN WOOD, A., CLASS-BOOK BOT. 414. 1845.

USA: MICHIGAN: -- (---, ---. ---)
 GH HOLOTYPE

433. *PRATENSIS* DREJER, S.T.N., NATURHIST. TIDSSKR. 3:442. 1841.

GREENLAND: --: -- (VAHL, J., ---. ---)
 CAS 105004 TYPE COLLECTION

434. *PRATENSIS* VAR. *FURVA* BAILEY, L.H. IN MACOUN, JOHN, CAT. CANADIAN PL. 5:377. 1890.

CANADA: BRITISH COLUMBIA: VANCOUVER ISLAND, CEDAR HILL
 (MACOUN, JOHN, ---. 31 MAY 1887)
 GH ISOTYPE

435. *PRATICOLA* VAR. *SUBCORIACEA* HERMANN, F.J., LEAFL. W. BOT. 8:113. 1957.

CANADA: ALBERTA: MOUNTAIN PARK, MCCLEOD RIVER (HERMANN, F.J., 13453. 26 AUG 1956)

CAS 404488 ISOTYPE
US 2265957 HOLOTYPE

436. PREISSII ESSENBACH, N. VON IN LEHMANN, J., PL. PREISS. 2:94. 1846.
AUSTRALIA: ---: --- (PREISS, L., 1825. ---)
GH SYNTYPE
AUSTRALIA: WESTERN AUSTRALIA: PERTH (PREISS, L., 1861.
-- JUL 1839)
MO 2002968 SYNTYPE
437. PRESII STEUDEL, E. G., SYN. PL. GLUM. 2:242. 1855.
USA: ALASKA: NUTKA SOUND ("SINUS NUTKA") (HAENKE, T., ---. ---)
US 865056 TYPE MATERIAL
438. PRINGLEI BAILEY, L. H., BOT. GAZ. 17:151. 1892.
MEXICO: SAN LUIS POTOSI: HACIENDA DE ANGUSTURA, 100 MILES EAST
OF SAN LUIS POTOSI (PRINGLE, C. G., 3801. 04 AUG 1891)
F 105551 TYPE COLLECTION
F 1607711 TYPE COLLECTION
GH TYPE COLLECTION
MO TYPE COLLECTION
NY TYPE COLLECTION
US 817724 TYPE COLLECTION
439. PRIONPHYLLA HOLM, H. T., AMER. J. SCI. SER. 4, 14:423. 1902.
USA: IDAHO: DIVIDE BETWEEN SAINT JOE AND CLEARWATER RIVERS
(LEIBERG, J. B., 125. 10 JUL 1895)
NY TYPE COLLECTION
440. PROJECTA MACKENZIE, K. K., BULL. TORREY BOT. CLUB 35:264. 1908.
CANADA: NEW BRUNSWICK: KENT CO.: KOUCHIBOUGUAC (FOWLER, J., ---.
-- --- 1872)
GH ISOTYPE
NY TYPE COLLECTION
441. PROPOSITA MACKENZIE, K. K., N. AMER. FL. 18:126. 1931.
USA: IDAHO: BLAINE CO.: SMOKY MOUNTAINS; ALT. 2700 M.
(MACBRIDE, J. F. AND PAYSON, E. B., 3778. 13 AUG 1916)
CAS 102638 ISOTYPE
GH ISOTYPE
NY HOLOTYPE
442. X PSEUDO-FULVA FERNALD, M. L., RHODORA 35:231. 1933.
CANADA: NEWFOUNDLAND: PORT AU PORT BAY, TABLE MOUNTAIN
(FERNALD, M. L. AND WIEGAND, K. M., 4258. 16 AUG 1910)
GH HOLOTYPE
443. PSEUDOJAPONICA CLARKE, C. B., BULL. MISC. INFORM. ADD. SER. 8:81.
1908.
USA: CALIFORNIA: NEVADA CO.: SIERRA NEVADA RANGE, DONNER LAKE;
ALT. 2750 M. (HELLER, A. A., 7187. 17 AUG 1903)
F 215918 TYPE COLLECTION
NY TYPE COLLECTION

444. **PTEROLEPTA** FRANCHET, A., NOUV. ARCH. MUS. HIST. NAT. SER. 3, 8:215. 1896.
CHINA: YUNNAN: -- (DELA VAY, R.P., 4829. 15 JUL 1889)
US 1123683 ISOTYPE
445. **PTYCHOCARPA** STEUDEL, E.G., SYN. PL. GLUM. 2:234. 1855.
USA: LOUISIANA: ORLEANS PARISH: NEW ORLEANS (DRUMMOND, T., 424. -- --- 1832)
NY TYPE COLLECTION
446. **PURPUREOVAGINATA** VAR. **ITATIAIAE** GROSS, R.,
REP. SP. NOV. REGNI VEG. 50:212. 1941.
BRAZIL: RIO DE JANEIRO: ITATIAIA (CHASE, A., 8283. 17 JAN 1925)
US 1282178 TYPE
447. **PURPURIFERA** MACKENZIE, K.K., N. AMER. FL. 18:253. 1935.
USA: TENNESSEE: CAMPBELL CO.: CHASKA (BRIGHT, J., ---. 18 MAY 1923)
NY TYPE COLLECTION
448. **PYCNOTHYSOS** KUKENTHAL, G., PHILIPP. J. SCI. 6:60. 1911.
PHILIPPINES: NEGROS OCCIDENTAL: MOUNT CANLAON (VOLCANO)
(MERRILL, E.D., 543. -- APR 1910)
US 1398830 TYPE MATERIAL
- Q-
449. **QUADRIFIDA** BAILEY, L.H., PROC. CALIF. ACAD. SCI. SER. 2, 3:104. 1891.
USA: CALIFORNIA: TUOLUMNE CO.: MOUNT DANA, TUOLUMNE RIVER
(BOLANDER, H.N., 5046. -- --- 1866)
DS 55002 SYNTYPE
NY SYNTYPE
450. **QUADRIFIDA** VAR. **LENIS** BAILEY, L.H., PROC. CALIF. ACAD. SCI. SER. 2, 3:105. 1891.
USA: CALIFORNIA: TUOLUMNE CO.: MOUNT DANA, TUOLUMNE RIVER
(BOLANDER, H.N., 5046. -- --- 1866)
NY SYNTYPE
451. **X QUEBECENSIS** LEPAGE, E., NATURALISTE CANAD. 91:168. 1964.
CANADA: QUEBEC: SAGUENAY CO.: ROMAINE RIVER (DUTILLY, A. AND LEPAGE, E., 41,305. 12 AUG 1963)
GH ISOTYPE
NY ISOTYPE
US 2433718 ISOTYPE
452. **QUICHENSIS** HERMANN, F.J., J. WASH. ACAD. SCI. 40:284. 1950.
GUATEMALA: QUICHE: NEBAJ (SHARP, A.J., 45144. 07 FEB 1945)
US 2133193 TYPE

-R-

453. *RACHILLIS* MAGUIRE, B., BRITTONIA 5:199. 1944.
 USA: UTAH: GILBERT PEAK (MAGUIRE, B. AND MAGUIRE, R.R., 14668.
 16 AUG 1936)
 CAS 325253 ISOTYPE
 NY TYPE
 US 1872576 TYPE MATERIAL
454. *RAMOSII* KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG. 8:8. 1910.
 PHILIPPINES: RIZAL: LUZON (ISLAND), MORONG (RAMOS, M.,
 BUR. SCI. 1434. -- AUG 1906)
 US 626608 TYPE MATERIAL
455. *RAYNOLDSII* DEWEY, C., AMER. J. SCI. ARTS SER. 2, 32:39. 1861.
 USA: IDAHO: FREMONT CO.: PIERRE'S HOLE AND HENRY'S FORK
 (HAYDEN, F.V., ---. 20 JUN 1860)
 GH SYNTYPE
456. *RETROCURVA* DEWEY, C. IN WOOD, A., CLASS-BOOK BOT. 423. 1845.
 USA: NEW YORK: JEFFERSON CO.: -- (WOOD, W.A., ---. ---)
 GH HOLOTYPE
457. *RETROCURVA* VAR. *COPULATA* BAILEY, L.H., HERB. DISTR. NO. 161. 1886.
 USA: MICHIGAN: INGHAM CO.: LANSING (BAILEY, L.H., 161.
 01 JUN 1886)
 GH ISOTYPE
458. *RETROFLEXA* MUHLENBERG, H. EX WILLDENOW, C.L., SP. PL. ED. 4, 4:235.
 1805.
 USA: TEXAS: -- (DRUMMOND, T., ---. ---)
 NY TYPE
459. *RHYNCHACHAENIUM* CLARKE, C.B. IN MERRILL, E.D.,
 PUBL. BUR. SCI. GOV. LAB. 35:5. 1906 ("1905").
 PHILIPPINES: BATAAN: MOUNT MARIVELES; ALT. 1100 M.
 (ELMER, A.D.E., 6983. -- NOV 1904)
 NY COTYPE
460. *RICHARDSONII* BROWN, R. IN RICHARDSON, J. IN FRANKLIN, J.,
 NARR. JOURNEY POLAR SEA 751. 1819.
 CANADA: --: -- (RICHARDSON, J., ---. ---)
 GH TYPE MATERIAL
461. *RICHARDSONII* FOR. *EXSERTA* FERNALD, M.L., RHODORA 44:290. 1942.
 USA: ILLINOIS: HANCOCK CO.: AUGUSTA (MEAD, S.B., ---. ---)
 GH HOLOTYPE
462. *ROANENSIS* HERMANN, F.J., CASTANEA 12:113. 1948 ("1947").
 USA: TENNESSEE: CARTER CO.: ROAN MOUNTAIN; ALT. 4700 FT.

(BROWN, D.M., 255. 02 AUG 1936)
 US 2133190 HOLOTYPE

463. **RORAIMENSIS** STEYERMARK, J.A., FIELDIANA, BOT. 28:67, FIG.7. 1951.
 VENEZUELA: BOLIVAR: MOUNT RORAIMA; ALT. 2700-2740 M.
 (STEYERMARK, J.A., 5887C. 28 SEP 1944)
 F 1263854 HOLOTYPE
 NY ISOTYPE
464. **ROSAEIDES** HOWE, E.C. IN GORDINIER, H.C. AND HOWE, E.C.,
 FL. RENSSELAER CO. 33. 1894.
 USA: NEW YORK: RENSSELAER CO.: LANSINGBURGH (HOWE, E.C., ---.
 30 MAY 1887)
 NY ISOTYPE
465. **ROSEA VAR. ARKANSANA** BAILEY, L.H., BOT. GAZ. 13:87. 1888.
 USA: ARKANSAS: PULASKI CO.: LITTLE ROCK, LA FOURCHE CREEK
 (HASSE, H.E., ---. 01 MAY 1886)
 GH HOLOTYPE
 NY ISOTYPE
466. **ROSEA VAR. PUSILLA** PECK, C.H., ANNUAL REP. NEW YORK STATE MUS.
 48:132. 1895.
 USA: NEW YORK: LIVINGSTONE CO.: PORTAGE (PECK, C.H., ---.
 -- JUN 1894)
 NY TYPE
467. **ROSEA VAR. STAMINATA** PECK, C.H., ANNUAL REP. NEW YORK STATE MUS.
 47:164. 1894.
 USA: NEW YORK: OTSEGO CO.: COOPERSTOWN JUNCTION (PECK, C.H., 5.
 -- JUN 1893)
 NY TYPE
468. **RUBRO-BRUNNEA VAR. ELINEOLATA** MERRILL, E.D., LINGNAN SCI. J. 13:18.
 1934.
 CHINA: KWANGTUNG: LOH-FAU-SHAN (MOUNTAIN), POK-LO (TSUI, T.M.,
 74. -- MAR-APR 1932)
 A ISOTYPE
 GH ISOTYPE
 MO 1260436 ISOTYPE
 NY TYPE
 US 1754487 ISOTYPE
469. **RUGATA** FERNALD, M.L., RHODORA 43:545, PL. 671. 1941.
 USA: VIRGINIA: SUSSEX CO.: HOMEVILLE (FERNALD, M.L. AND LONG, B.,
 11787. 07 MAY 1940)
 CAS 336836 ISOTYPE
 F 1489429 ISOTYPE
 GH HOLOTYPE
 MO 1306478 ISOTYPE
 NY ISOTYPE
 US 2003132 ISOTYPE

470. **RUGATA** OHWI, J., ACTA PHYTOTAX. GEOBOT. 1:76. 1932.
JAPAN: --: HONSHU (ISLAND), MOUNT DAIMONJI IN YAMASHIRO
(OHWI, J., 29. 04 MAY 1931)
F 1463953 TYPE MATERIAL
471. **RUGOSPERMA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 42:621. 1915.
USA: NEW JERSEY: OCEAN CO.: TUCKERTON (MACKENZIE, K.K., 9871.
-- MAY 1911)
NY TYPE
472. **RUSBYI** MACKENZIE, K.K., SMITHSONIAN MISC. COLLECT. 65(7):2. 1915.
USA: ARIZONA: YAVAPAI CO.: -- (RUSBY, H.H., 859. -- --- 1883)
NY TYPE
US 30267 TYPE COLLECTION
473. **RUTHII** MACKENZIE, K.K., N. AMER. FL. 18:112. 1931.
USA: NORTH CAROLINA: BUNCOMBE CO.: CRAGGY MOUNTAIN (RUTH, A.,
---. -- JUL 1900)
NY HOLOTYPE
- S-
474. **SALINAEFORMIS** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 36:477. 1909.
USA: CALIFORNIA: MENDOCINO CO.: MENDOCINO CITY (BOLANDER, H.N.,
4702. -- --- 1866)
CAS 383801 TYPE COLLECTION
DS 293480 TYPE COLLECTION
F 30885 TYPE MATERIAL
MO TYPE MATERIAL
NY TYPE COLLECTION
US 29888 TYPE COLLECTION
US 319226 TYPE COLLECTION
475. **SALTAENSIS** GROSS, R., REPERT. SP. NOV. REGNI VEG. 50:211. 1941.
ARGENTINA: SALTA: ROSARIO DEPT.: CAMPO QUIJANO (VENTURI, S.,
8650. -- --- 1929)
US 1545752 TYPE
476. **SANGUINEA** BOOTT, F., TRANS. LINN. SOC. LONDON 20:137. 1846.
AFGHANISTAN: --: -- (GRIFFITH, W., 96(KEW 6094). ---)
NY TYPE COLLECTION
477. **SARAWAKETENSIS** KUKENTHAL, G., BOT. JAHRB. SYST. 69:262. 1938.
PAPUA AND NEW GUINEA: NORTH-EAST NEW GUINEA (TERRITORY):
MOROBE DISTRICT: FINISTERRE RANGE, MOUNT SARAWAKET
(CLEMENS, J. AND CLEMENS, M.S., 5546. -- MAR 1937)
A ISOTYPE
478. **SARTWELLIANA** OLNEY, S.T. IN GRAY, A., PROC. AMER. ACAD. ARTS 7:396.
1868.
USA: CALIFORNIA: MARIPOSA CO.: YOSEMITE NATIONAL PARK,

YOSEMITE VALLEY (BREWER, W.H., 1636. -- --- 1863)

GH

HOLOTYPE

479. **SARTWELLII** DEWEY, C., AMER. J. SCI. ARTS SER. 1, 43:90. 1842.
 USA: NEW YORK: SENECA CO.: JUNIUS (SARTWELL, H.P., 12. ---)
 CAS 383407 TYPE COLLECTION
 CAS 553975 TYPE COLLECTION
 NY TYPE COLLECTION
480. **SAVAIIENSIS** KUKENTHAL, G., BERNICE P. BISHOP MUS. BULL. 128:24. 1935.
 WESTERN SAMOA: --: SAVAII ISLAND (CHRISTOPHERSEN, E., 800. 24 SEP 1929)
 NY ISOTYPE
481. **X SAXENII NM. FERRUGINEA** LEPAGE, E., NATURALISTE CANAD. 83:142. 1956.
 CANADA: QUEBEC: JAMES BAY, FORT GEORGE (DUTILLY, A.; LEPAGE, E. AND DUMAN, M., 32357. 14 AUG 1954)
 GH ISOTYPE
 US 2176493 ISOTYPE
482. **SAXIMONTANA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 33:439. 1906.
 USA: COLORADO: LARIMER CO.: FORT COLLINS (BAKER, C.F., ---. ---)
 MO TYPE MATERIAL
 NY TYPE MATERIAL
483. **SCABRIOR** SARTWELL, H.P. EX DEWEY, C., AMER. J. SCI. ARTS SER. 2, 8:349. 1849.
 USA: NEW YORK: YATES CO.: PENN YAN (SARTWELL, H.P., 72. ---)
 CAS 553877 ISOTYPE
484. **SCABRIUSCULA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 35:268. 1908.
 USA: WASHINGTON: CASCADE MOUNTAINS (CUSICK, W.C., 2849. 30 JUN 1902)
 DS 490735 ISOTYPE
 MO ISOTYPE
 NY TYPE
 US 528631 ISOTYPE
485. **SCAPOSA** HOOKER, J.D., BOT. MAG. PL. 6940. 1887.
 CHINA: KWANGTUNG: LOH-FAU-SHAN (MOUNTAIN) (FORD, C., ---. -- --- 1883?)
 MO 2002967 TYPE COLLECTION
486. **SCHAFFNERI** BOOTT, W. IN WATSON, S., PROC. AMER. ACAD. ARTS 18:172. 1883.
 MEXICO: SAN LUIS POTOSI: SAN LUIS POTOSI (SCHAFFNER, J.G., 546. -- --- 1877)
 GH ISOTYPE
487. **SCHNEIDERI** NELMES, E., BULL. MISC. INFORM. 201. 1939.

- CHINA: YUNNAN: LIKIANG (SCHNEIDER, C., 2738. 06 AUG 1914)
GH HOLOTYPE
488. SCHWEINITZII DEWEY, C., AMER. J. SCI. ARTS SER. 1, 9:68. 1825.
USA: MASSACHUSETTS: BERKSHIRE CO.: WILLIAMSTOWN (DEWEY, C., ---.
---)
GH HOLOTYPE
489. SCIRPIIFORMIS MACKENZIE, K.K., BULL. TORREY BOT. CLUB 35:270. 1908.
CANADA: ALBERTA: BANFF NATIONAL PARK, BANFF (MCCALLA, W.C.,
2348. 28 JUL 1899)
NY TYPE
490. SCIRPOIDEA VAR. GIGAS HOLM, H.T., AMER. J. SCI. SER. 4, 18:20. 1904.
USA: CALIFORNIA: SISKIYOU CO.: MOUNT EDDY (PRINGLE, C.G., ---.
19 AUG 1881)
F 210109 TYPE COLLECTION
NY TYPE COLLECTION
491. SCIRPOIDEA VAR. STENOCHLAENA HOLM, H.T., AMER. J. SCI. SER. 4, 18:20.
1904.
CANADA: BRITISH COLUMBIA: CHILLIWACK VALLEY (MACOUN, J.M.,
33728. 12 JUL 1901)
NY TYPE COLLECTION
492. SCOPARIA VAR. CONDENSEA FERNALD, M.L., PROC. AMER. ACAD. ARTS
37:468, PL. 1. 1902.
USA: MASSACHUSETTS: MIDDLESEX CO.: MEDFORD (BOOTT, W., ---.
26 JUL 1865)
GH HOLOTYPE
493. SCOPARIA VAR. FULVA BOOTT, W. IN WATSON, S.,
GEOL. SURV. CALIFORNIA, BOT. 2:237. 1880.
USA: CALIFORNIA: ALPINE CO.: SILVER VALLEY (BREWER, W.H., 1969.
31 JUL 1863)
GH SYNTYPE
494. SCOPARIA VAR. MINOR BOOTT, F., ILL. GENUS CAREX 3:116, PL. 369.
1862.
USA: NEW HAMPSHIRE: WHITE MOUNTAINS (TUCKERMAN, E., ---. ---)
NY TYPE COLLECTION
495. SCOPARIA VAR. MONILIFORMIS TUCKERMAN, E., ENUM. CARIC. 17. 1843.
USA: MASSACHUSETTS: MIDDLESEX CO.: CAMBRIDGE (TUCKERMAN, E.,
----. ----)
GH HOLOTYPE
496. SCOPARIA FOR. PERACUTA FERNALD, M.L., RHODORA 23:234. 1921.
CANADA: NOVA SCOTIA: YARMOUTH CO.: SAND BEACH (FERNALD, M.L.
AND LONG, B., 20296. 14 JUL 1920)
GH HOLOTYPE
497. SCOPARIA VAR. SUBTURBINATA FERNALD, M.L. AND WIEGAND, K.M., RHODORA

14:116. 1912.

CANADA: NEWFOUNDLAND: EXPLOITS RIVER VALLEY, GRAND FALLS AREA,
RUSHY POND (FERNALD, M.L. AND WIEGAND, K.M., 4796.

28 AUG 1911)

F	464432	SYNTYPE
GH		HOLOTYPE
NY		ISOTYPE

498. *SCOPARIA* VAR. *TESSELLATA* FERNALD, M.L. AND WIEGAND, K.M., RHODORA
12:135. 1910.

USA: MAINE: WASHINGTON CO.: PEMBROKE (FERNALD, M.L., 1464.

08 JUL 1909)

GH		HOLOTYPE
NY		ISOTYPE

499. *SCOULERI* TORREY, J., ANN. LYCEUM NAT. HIST. NEW YORK 3:399. 1836.

USA: BRITISH COLUMBIA: "WESTERN SHORE OF AMERICA, OBSERVATORY
INLET" (ARM OF PORTLAND INLET) (SCOULER, J., 296. ---)

NY		HOLOTYPE
----	--	----------

500. *SEATONIANA* BAILEY, L.H., BOT. GAZ. 25:270. 1898.

MEXICO: HIDALGO: TULA (PRINGLE, C.G., 7452. 24 JUN 1897)

CAS	445940	ISOTYPE
GH		ISOTYPE
US	305734	TYPE COLLECTION

501. *SHELDONII* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 42:618. 1915.

USA: OREGON: UNION CO.: CLARK'S CREEK (SHELDON, E.P., 8854.

09 SEP 1897)

NY		ISOTYPE
NY		TYPE
US	528495	TYPE COLLECTION

502. *SICCATA* DEWEY, C., AMER. J. SCI. ARTS SER. 1, 10:278. 1826.

USA: MASSACHUSETTS: HAMPDEN CO.: WESTFIELD (DAVIS, E., ---.

---)

NY		TYPE COLLECTION
----	--	-----------------

503. *SIMULATA* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 34:604. 1907.

USA: WYOMING: ALBANY CO.: CHUG CREEK (NELSON, A., 7316.

29 JUN 1900)

NY		HOLOTYPE
----	--	----------

504. *SMALLIANA* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 36:484. 1909.

USA: GEORGIA: TATTNALL CO.: REIDSVILLE (HARPER, R.M., 2159.

26 APR 1904)

US	511177	TYPE COLLECTION
----	--------	-----------------

505. *SONOMENSIS* STACEY, J.W., LEAFL. W. BOT. 2:63. 1937.

USA: CALIFORNIA: SONOMA CO.: SEBASTOPOL, PITKIN MARSH

(HOWELL, J.T. AND STACEY, J.W., 13042. 06 JUN 1937)

CAS	246086	HOLOTYPE
CAS	246636	ISOTYPE

DS	258275	ISOTYPE
DS	374718	ISOTYPE
F	907841	ISOTYPE
GH		ISOTYPE
NY		ISOTYPE
UC	835699	ISOTYPE
US	1736782	ISOTYPE

506. *SOPERI* RAUP, H.M., *SARGENTIA* 6:129, FIG.12. 1947.
CANADA: NORTHWEST TERRITORIES: MACKENZIE DISTRICT: BRINTELL
LAKE (RAUP, H.M. AND SOPER, J.H., 9534. 18 JUL 1939)
GH HOLOTYPE
507. *SPECIFICA* BAILEY, L.H., MEM. TORREY BOT. CLUB 1:21. 1889.
USA: CALIFORNIA: ALPINE CO.: SILVER VALLEY (BREWER, W.H., 1969.
31 JUL 1863)
CAS 232289 SYNTYPE
US 30329 SYNTYPE
508. *SPECUICOLA* HOWELL, J.T., LEAFL. W. BOT. 5:148. 1949.
USA: ARIZONA: COCONINO CO.: INSCRIPTION HOUSE (HOWELL, J.T.,
24609. 23 JUN 1948)
CAS 342552 ISOTYPE
CAS 342553 HOLOTYPE
DS 337970 ISOTYPE
GH ISOTYPE
NY ISOTYPE
US 2006386 ISOTYPE
509. *SPRETA* BAILEY, L.H., MEM. TORREY BOT. CLUB 1:6. 1889.
USA: OREGON: MULTNOMAH CO.: SAUVIE ISLAND (COLUMBIA RIVER AT
MOUTH OF WILLAMETTE RIVER) (HOWELL, T.J., ---. -- MAY 1880)
GH TYPE COLLECTION
MO TYPE COLLECTION
510. *STANDLEYANA* STEYERMARK, J.A., *CEIBA* 3:23. 1952.
GUATEMALA: JALAPA: AGUACATE (WILLIAMS, L.O., 13178.
06 JUL 1947)
F 1252385 HOLOTYPE
511. *STANTONENSIS* JONES, M.E., BULL. MONTANA STATE UNIV., BIOL. SER.
15:20, PL.3. 1910.
USA: MONTANA: STANTON LAKE (WILLIAMS, R.S., ---. 11 AUG 1894)
NY TYPE
512. *STELLATA* MACKENZIE, K.K., N. AMER. FL. 18:226. 1935.
MEXICO: HIDALGO: IXMIQUILPAN (ROSE, J.N.; PAINTER, J.H. AND
ROSE, J.S., 9019. -- --- 1905)
NY ISOTYPE
US 452499 HOLOTYPE
513. *STELLULATA* VAR. *CONFERTA* CHAPMAN, A.W., FL. S. U.S. ED.1, 534.
1860.

USA: FLORIDA: GADSDEN CO.: -- (CHAPMAN, A.W., ---. ---)
 NY TYPE

514. **STENOPHYLLA VAR. DESERTORUM** LITVINOV, D.I., ALLG. BOT. Z. SYST.
 5(BEIH.1):56. 1899.
 USSR: TURKESTAN: -- (LITVINOV, D.I., 153. -- --- 1897)
 US 616142 TYPE MATERIAL

515. **STENOPTERA** MACKENZIE, K.K., ERYTHEA 8:28. 1922.
 USA: CALIFORNIA: LOS ANGELES CO.: SAN ANTONIO MOUNTAINS, ICE
 HOUSE CANYON (JOHNSTON, I.M., 1505. 31 JUL 1917)
 DS 83850 ISOTYPE
 NY TYPE

516. **STERILIS VAR. EXCELSIOR** BAILEY, L.H., BULL. TORREY BOT. CLUB 20:424.
 1893.
 USA: NEW YORK: SENECA CO.: JUNIUS (SARTWELL, H.P., 35. ---)
 NY ISOTYPE

517. **STEUDELII** KUNTH, C.S., ENUM. PL. 2:480. 1837.
 USA: OHIO: MIAMI RIVER VALLEY (FRANK, J.C., ---. -- --- 1835)
 NY TYPE COLLECTION

518. **STEYERMARKII** STANDLEY, P.C., PUBL. FIELD MUS. NAT. HIST., BOT. SER.
 23:196. 1947.
 GUATEMALA: HUEHUETENANGO: CERRO HUITZ (STEYERMARK, J.A., 48542.
 14 JUL 1942)
 F 1129096 HOLOTYPE

519. **STIPATA VAR. LAEVIVAGINATA** KUKENTHAL, G. IN ENGLER, H.G.A.,
 PFLANZENR. 4, FAM. 20:172. 1909.
 USA: NORTH CAROLINA: BUNCOMBE CO.: BILTMORE (NEAR ASHEVILLE)
 (BILTMORE HERBARIUM, 262A. 28 MAY 1897)
 F 813737 TYPE COLLECTION
 GH TYPE COLLECTION
 MO TYPE COLLECTION
 NY TYPE COLLECTION

520. **STIPATA VAR. MAXIMA** CHAPMAN, A.W. EX BOOTT, F., ILL. GENUS CAREX
 3:121, PL. 391. 1862.
 USA: FLORIDA: APPALACHICOLA (CHAPMAN, A.W., ---. ---)
 US 969091 TYPE COLLECTION

521. **STIPATA VAR. SUBSECUTA** PECK, C.H., ANNUAL REP. NEW YORK STATE MUS.
 48:128. 1895.
 USA: NEW YORK: RENSSELAER CO.: BERLIN (PECK, C.H., ---.
 -- JUN 1894)
 NY TYPE COLLECTION

522. **STIPATA VAR. UBERIOR** MOHR, C., CONTR. U.S. NATL. HERB. 6:417. 1910.
 USA: ALABAMA: MOBILE RIVER (MOHR, C., ---. 26 APR 1897)
 NY ISOTYPE

523. *STRAMINEA* VAR. *CUMULATA* BAILEY, L.H., MEM. TORREY BOT. CLUB 1:23. 1889.
CANADA: NEW BRUNSWICK: KENT CO.: -- (FOWLER, J., ---.
-- JUL 1870)
GH SYNTYPE
MO SYNTYPE
NY SYNTYPE
524. *STRAMINEA* VAR. *ECHINODES* FERNALD, M.L., PROC. AMER. ACAD. ARTS 37:474, PL. 2. 1902.
CANADA: ONTARIO: LAMBTON CO.: WYOMING (MACOUN, JOHN, 26624. 24 JUN 1901)
GH SYNTYPE
525. *STRAMINEA* VAR. *RENIFORMIS* BAILEY, L.H., MEM. TORREY BOT. CLUB 1:73. 1889.
USA: MISSISSIPPI: OKTIBBEHA CO.: STARKVILLE (TRACY, S.M., 17. 23 MAY 1888)
NY SYNTYPE
526. *STRICTA* VAR. *XEROCARPA* BRITTON, N.L., BULL. TORREY BOT. CLUB 22:222. 1895.
USA: NEW YORK: STEUBEN CO.: PRATTSBURGH (WRIGHT, S.H., ---.
---)
NY TYPE COLLECTION
527. *STYLOFLEXA* BUCKLEY, S.B., AMER. J. SCI. ARTS SER. 1, 45:174. 1843.
USA: NORTH CAROLINA: MACON CO.: MOUNTAINS (BUCKLEY, S.B., ---.
---)
MO TYPE COLLECTION
NY TYPE COLLECTION
528. *STYLOSA* VAR. *VIRENS* BAILEY, L.H., PROC. AMER. ACAD. ARTS 22:79. 1886 ("1887").
USA: OREGON: MULTNOMAH CO.: SAUVIE ISLAND (COLUMBIA RIVER AT MOUTH OF WILLAMETTE RIVER) (HOWELL, T.J., ---. -- MAY 1880)
GH SYNTYPE
MO SYNTYPE
529. *SUB-BRACTEATA* MACKENZIE, K.K., BULL. TORREY BOT. CLUB 43:612. 1916.
USA: CALIFORNIA: ALAMEDA CO.: OAKLAND (BOLANDER, H.N., ---.
-- --- 1860 CA.)
GH ISOTYPE
NY HOLOTYPE
US 28683 ISOTYPE
530. *SUBFUSCA* BOOTT, W. IN WATSON, S., GEOL. SURV. CALIFORNIA, BOT. 2:234. 1880.
USA: CALIFORNIA: LAKE TAHOE TO BEAR VALLEY (KELLOGG, A., ---.
---)
GH ISOTYPE
531. *SUBIMPRESSA* CLOKEY, I.W., RHODORA 21:84. 1919.

USA: ILLINOIS: MACON CO.: -- (CLOKEY, I.W., 2338. 06 AUG 1915)
 CAS 162423 ISOTYPE
 UC 905433 HOLOTYPE

532. **SUBNIGRICANS** STACEY, J.W., LEAFL. W. BOT. 2:167. 1939.

USA: CALIFORNIA: TUOLUMNE CO.: MOUNT DANA (HOWELL, J.T., 14519.
 11 AUG 1938)
 CAS 259816 HOLOTYPE
 US 1765699 ISOTYPE

533. **SUBORBICULATA** MACKENZIE, K.K. IN ABRAMS, L., ILL. FL. PACIFIC STATES
 1:338. 1923.

USA: WASHINGTON: KLINKITAT CO.: -- (SUKSDORF, W.N., 1315.
 -- JUL 1883)
 NY TYPE

534. **SUBTRANSVERSA** CLARKE, C.B., PHILIPP. J. SCI. 2:108. 1907.

PHILIPPINES: BENGUET: LUZON (ISLAND), PAUAI (MERRILL, E.D.,
 473C. -- OCT-NOV 1905)
 NY TYPE MATERIAL
 US 710428 TYPE MATERIAL

535. **SUKSDORFII** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG. 16:434. 1920.

USA: WASHINGTON: YAKIMA CO.: MOUNT ADAMS ("PAODO")
 (SUKSDORF, W.N., 7383. 27 AUG 1912)
 CAS 152864 ISOTYPE
 CAS 243333 ISOTYPE
 DS 171455 ISOTYPE
 DS 269641 ISOTYPE
 GH ISOTYPE
 MO 95212 TYPE COLLECTION
 NY ISOTYPE
 US 1437926 TYPE COLLECTION

536. **SUKSDORFII VAR. OVALIS** KUKENTHAL, G., REPERT. SP. NOV. REGNI VEG.
 16:434. 1920.

USA: WASHINGTON: YAKIMA CO.: MOUNT ADAMS ("PAODO")
 (SUKSDORF, W.N., 5259. 21 AUG-20 SEP 1905)
 DS 269625 SYNTYPE
 NY SYNTYPE

537. **SURCULOSA** RAYMOND, M., MEM. JARD. BOT. MONTREAL 52:22. 1959.

CHINA: KWANGTUNG: SIN-FUNG DISTRICT: SAI-LIN-SHAN VILLAGE,
 NGOK SHING SHAN (TAAM, Y.W., 502. 1-16 APR 1938)
 A HOLOTYPE

538. **SYCHNOCEPHALA** CAREY, J., AMER. J. SCI. ARTS SER. 2, 4:24. 1847.

USA: NEW YORK: JEFFERSON CO.: WATERTOWN (CAREY, J., ---. ---)
 GH ISOTYPE

-T-

539. **TACHIRENSIS** STEYERMARK, J.A., FIELDIANA, BOT. 28:68, FIG. 8. 1951.
VENEZUELA: TACHIRA: COLOMBIAN-VENEZUELAN BOUNDARY, PARAMO DE
TAMA; ALT. 3045-3475 M. (STEYERMARK, J.A., 57367.
15 JUL 1944)
F 1263858 HOLOTYPE
US 1932033 ISOTYPE
540. **TAHITENSIS** BROWN, F.B.H., OCCAS. PAP. BERNICE PAUAAHI BISHOP MUS.
9(4):8. 1930.
FRENCH POLYNESIA: --: SOCIETY ISLANDS, TAHITI, MOUNT OROHENA
(MACDANIELS, L.H., 1542. 15 MAY 1927)
A ISOTYPE
541. **TAMAKII** KOYAMA, T., BULL. ARTS SCI. DIV. RYUKYU UNIV. 3:75. 1959.
RYUKYU ISLANDS: OKINAWA (PREFECTURE): OKINAWA (ISLAND), YONA
OKINAWA (ISLAND), YONA EXPERIMENTAL FOREST OF RYUKYU
UNIVERSITY; (COUNTRY AS "JAPAN") (KOYAMA, T., ---.
23 NOV 1958)
NY HOLOTYPE
542. **TAMANA** STEYERMARK, J.A., FIELDIANA, BOT. 28:70. 1951.
VENEZUELA: TACHIRA: COLOMBIAN-VENEZUELAN BOUNDARY, PARAMO DE
TAMA; ALT. 3045-3475 M. (STEYERMARK, J.A., 57401.
15 JUL 1944)
F 1263857 HOLOTYPE
543. **TENERA** DEWEY, C., AMER. J. SCI. ARTS SER. 1, 8:97. 1824.
USA: MASSACHUSETTS: BERKSHIRE CO.: WILLIAMSTOWN, SADDLE
MOUNTAIN (DEWEY, C., ---. 20 JUN ----)
GH HOLOTYPE
544. **TENERA** VAR. **RICHII** FERNALD, M.L., PROC. AMER. ACAD. ARTS
37:475, PL. 2. 1902.
USA: MASSACHUSETTS: MIDDLESEX CO.: MIDDLESEX FALLS (RICH, W.P.,
---. 05 JUN 1894)
GH HOLOTYPE
545. **TENERAEFORMIS** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 43:609. 1916.
USA: CALIFORNIA: BUTTE CO.: JONESVILLE; ALT. 5100 FT.
(HALL, H.M., 9781. 25 JUL 1914)
NY HOLOTYPE
546. **TENTACULATA** VAR. **ALTIOR** BOOTT, F., ILL. GENUS CAREX 2:94, PL. 278.
1860.
USA: NEW YORK: YATES CO.: PENN YAN (SARTWELL, H.P., 138. ---)
CAS 553943 TYPE COLLECTION
547. **TENUIFLORA** VAR. **SETACEA** KUKENTHAL, G. IN ENGLER, H.G.A., PFLANZENR.

4, FAM.20:224. 1909.
 USA: MICHIGAN: INGHAM CO.: LANSING (WHEELER,C.F., ---.
 28 JUN 1890)
 GH ISOTYPE

548. **TERETIUSCULA VAR. AMPLA** BAILEY,L.H., MEM. TORREY BOT. CLUB 1:53.
 1889.
 USA: OREGON: BAKER CO.: HEAD OF BURNT RIVER (CUSICK,W.C., 1331.
 -- JUL 1886)
 NY SYNTYPE

549. **TERRAE-NOVAE** FERNALD,M.L., RHODORA 44:290, PL.711. 1942.
 CANADA: NEWFOUNDLAND: SAINT JOHN BAY, SAINT JOHN ISLAND
 (FERNALD,M.L.; WIEGAND,K.M.; LONG,B.; GILBERT-JR.,F.A. AND
 HOTCHKISS,N., 27657. 31 JUL 1925)
 GH HOLOTYPE

550. **TETSUOI** OHWI,J., MISC. REP. NATL. SCI. MUS. 5:2, PL.2. 1952.
 RYUKYU ISLANDS: OKINAWA (PREFECTURE): OKINAWA (ISLAND);
 (COUNTRY AS "JAPAN") (AMANO,T., 6358. -- MAY 1951)
 US 2092356 TYPE MATERIAL

551. **THURBERI** DEWEY,C. IN TORREY,J. IN EMORY,W.H.,
 REP. U.S. MEX. BOUND. SURV., BOT. 2(1):232. 1859.
 MEXICO: SONORA: MABIBI (THURBER,G., ---. -- JUN 1850)
 GH HOLOTYPE

552. **TOJQUIANENSIS** STANDLEY,P.C. AND STEYERMARK,J.A., CEIBA 4:64. 1953.
 GUATEMALA: HUEHUETENANGO: SIERRA DE LOS CUCHUMATANES, BETWEEN
 TOJQUIA AND CAXIN (STEYERMARK,J.A., 50150. 06 AUG 1942)
 F 1129085 TYPE MATERIAL
 F 1129086 TYPE MATERIAL

553. **TOMPKINSI** HOWELL,J.T., LEAFL. W. BOT. 9:185. 1961.
 USA: CALIFORNIA: FRESNO CO.: KINGS RIVER CANYON, COPPER CREEK
 TRAIL (HOWELL,J.T., 35333. 06 JUN 1960)
 CAS 428953 HOLOTYPE
 CAS 429306 ISOTYPE
 NY ISOTYPE
 US 2604281 ISOTYPE

554. **TOREADORA** STEYERMARK,J.A., PHYTOLOGIA 9:338. 1954.
 ECUADOR: AZUAY: TOREADOR; ALT. 3810-3930 M. (STEYERMARK,J.A.,
 53095. 15 JUN 1943)
 F 1266183 TYPE MATERIAL
 NY ISOTYPE

555. **TORTA VAR. STAMINATA** PECK,C.H., ANNUAL REP. NEW YORK STATE MUS.
 46:131. 1893.
 USA: NEW YORK: ONEIDA CO.: TABERG (PECK,C.H., ---.
 -- JUN 1892)
 NY TYPE COLLECTION

556. **TOWNSENDII** MACKENZIE, K.K., N. AMER. FL. 18:111. 1931.
 MEXICO: CHIHUAHUA: COLONIA GARCIA; ALT. 2250 M.
 (TOWNSEND, C.H.T. AND BARBER, C.M., 157. 21 JUL 1899)
 CAS 351161 ISOTYPE
 NY ISOTYPE
 US 568126 HOLOTYPE
557. **TRACYI** MACKENZIE, K.K., ERYTHEA 8:41. 1922.
 USA: CALIFORNIA: HUMBOLDT CO.: BALD MOUNTAIN (TRACY, J.P., 4547.
 04 JUL 1914)
 NY TYPE
558. **TRIANGULARIS** BOECKELER, J.O., FLORA 39:226. 1856.
 USA: TEXAS: -- (DRUMMOND, T., ---. ---)
 NY ISOTYPE
559. **TRIBULOIDES** VAR. **SANGAMONENSIS** CLOKEY, I.W., RHODORA 21:84. 1919.
 USA: ILLINOIS: MACON CO.: -- (CLOKEY, I.W., 2364. 07 AUG 1915)
 UC 905441 HOLOTYPE
560. **X TRICHINA** FERNALD, M.L., RHODORA 35:219. 1933.
 USA: MAINE: ARDOSTOOK CO.: FORT FAIRFIELD (WILLIAMS, E.F.;
 COLLINS, J.F. AND FERNALD, M.L., 110. 19 JUL 1902)
 GH HOLOTYPE
561. **TRICHOPHYLLA** NELMES, E., MEM. MUS. NATL. HIST. NAT., SER. B, BOT.
 4:106. 1955.
 VIET-NAM, NORTH: TONKIN: CHAPU: (COUNTRY AS "INDOCHINA")
 (PETELOT, P.A., 5325. -- JUL 1930)
 GH HOLOTYPE
562. **TRISPERMA** DEWEY, C., AMER. J. SCI. ARTS SER. 1, 9:62. 1825.
 USA: MASSACHUSETTS: -- (DEWEY, C., ---. ---)
 NY ISOTYPE
563. **TRISPERMA** VAR. **BILLINGSII** KNIGHT, O.W., RHODORA 8:185. 1906.
 USA: MAINE: SOMERSET CO.: PLEASANT RIDGE, JEWETT BROOK BOG
 (WARE, R.A.; ROLLINS, S. AND KNIGHT, O.W., 5066. 05 JUL 1906)
 GH ISOTYPE
564. **TSOI** MERRILL, E.D. AND CHUN, N.K., SUNYATSENIA 2:207. 1935.
 CHINA: KWANGTUNG: HAINAN (ISLAND), DUNG KA TO WEN FA SHI
 (CHUN, N.K. AND TSO, C.L., 43680. -- --- 1932-1933)
 GH ISOTYPE
 NY TYPE
 US 1675120 TYPE MATERIAL
565. **TUMULICOLA** MACKENZIE, K.K., BULL. TORREY BOT. CLUB 34:154. 1907.
 USA: CALIFORNIA: ALAMEDA CO.: LAKE TEMESCAL (BIOLETTI, F.T., 1.
 25 JUN 1893)
 NY HOLOTYPE
566. **TUNIMANENSIS** STANDLEY, P.C. AND STEYERMARK, J.A., CEIBA 4:65. 1953.

GUATEMALA: HUEHUETENANGO: SIERRA DE LOS CUCHUMATANES, TUNIMA
 (STEYERMARK, J.A., 48334. 07 JUL 1942)
 F 1128966 TYPE

567. **TURGESSENS** TORREY, J., ANN. LYCEUM NAT. HIST. NEW YORK 3:419. 1836.
 USA: LOUISIANA: ORLEANS PARISH: NEW ORLEANS (INGALLS, T., ---.
 ---)

NY TYPE

568. **TURUMIQUIRENSIS** STEYERMARK, J.A., FIELDIANA, BOT. 28:70, FIG.7.
 1951.

VENEZUELA: SUCRE: CERRO TURUMIQUIRE, RIDGE DIVIDING HEADWATERS
 OF RIO MANZANARES AND RIO DE AMANA; ALT. 1900-2000 M.
 (STEYERMARK, J.A., 62705. 10 MAY 1945)

F 1266150 HOLOTYPE
 GH ISOTYPE
 NY ISOTYPE
 US 1933688 ISOTYPE

-U-

569. **ULTRA** BAILEY, L.H., PROC. AMER. ACAD. ARTS 22:83. 1886 ("1887").
 USA: ARIZONA: COCHISE CO.: HUACHUCA (LEMMON, J.G., 2.
 21 JUN 1882)

DS 63991 ISOTYPE
 DS 64032 ISOTYPE

570. **UMBELLATA VAR. VICINA** DEWEY, C., AMER. J. SCI. ARTS SER.1, 11:317.
 1826.

USA: ---: -- (DEWEY, C., ---. ---)
 GH HOLOTYPE

571. **UNCOMPAHGRE** KELSO, L., BIOL. LEAFL. 38:1. 1947.

USA: COLORADO: LA PLATA CO.: LA PLATA MOUNTAINS, MOUNT
 HESPERUS, GOLD KING MINE (KELSO, L., 6058. 03 JUL 1947)
 GH ISOTYPE

572. **UNDERWOODII** BRITTON, N.L., TORREYA 5:10. 1905.

JAMAICA: --: SALT HILL MARSH (UNDERWOOD, L.M., 158.
 29 JAN 1903)
 NY TYPE

573. **UNILATERALIS** MACKENZIE, K.K., ERYTHEA 8:43. 1922.

USA: CALIFORNIA: HUMBOLDT CO.: ALTON (TRACY, J.P., 3783.
 21 JUL 1912)
 NY TYPE

-V-

574. **VAGANS** HOLM, H.T., AMER. J. SCI. SER. 4, 17:301. 1904.
USA: OREGON: HARNEY CO.: STEEN MOUNTAIN, ANDREWS (LEIBERG, J.B.,
2558. 10 JUL 1896)
NY ISOTYPE
575. **VAGINATA VAR. ALTO-CAULIS** DEWEY, C., AMER. J. SCI. ARTS
SER. 2, 41:227. 1866.
USA: NEW YORK: GENESEE CO.: BERGEN (PAINE, J.A., ---. ---)
GH HOLOTYPE
576. **VALLICOLA** DEWEY, C., AMER. J. SCI. ARTS SER. 2, 32:40. 1861.
USA: WYOMING: TETON CO.: SNAKE RIVER, JACKSON HOLE VALLEY
(DEWEY, C., 10. 18 JUN 1860)
GH HOLOTYPE
577. **VENOSIVAGINATA** STANDLEY, P.C. AND STEYERMARK, J.A., CEIBA 4:67.
1953.
GUATEMALA: HUEHUETENANGO: SIERRA DE LOS CUCHUMATANES, CERRO
HUITZ, BETWEEN MIMANHUITZ AND YULHUITZ; ALT. 2600 M.
(STEYERMARK, J.A., 48554. 14 JUL 1942)
F 1129094 HOLOTYPE
GH ISOTYPE
578. **VERNACULA VAR. HOBSONII** MAGUIRE, B., BRITTONIA 5:199. 1944.
USA: UTAH: BEAR RIVER RANGE, WHITE PINE LAKE (MAGUIRE, B.;
HOBSON, D.A. AND MAGUIRE, R.R., 14013. 16 JUL 1936)
CAS 348507 ISOTYPE
GH ISOTYPE
NY HOLOTYPE
US 1872573 ISOTYPE
579. **VESICARIA VAR. JEJUNA** FERNALD, M.L., RHODORA 3:53. 1901.
USA: MAINE: AROOSTOOK CO.: MADAWASKA LAKE (WILLIAMS, E.F., ---.
-- AUG 1900)
GH HOLOTYPE
580. **VESICARIA VAR. LAURENTIANA** FERNALD, M.L., RHODORA 35:232. 1933.
CANADA: NEWFOUNDLAND: SAINT JOHN'S (FERNALD, M.L.; LONG, B. AND
FOGG-JR., J.M., 1474. 31 JUL 1929)
GH HOLOTYPE
US 2050647 ISOTYPE
581. **VESTITA VAR. KENNEDYI** FERNALD, M.L., RHODORA 2:170. 1900.
USA: MASSACHUSETTS: MIDDLESEX CO.: WILMINGTON, SILVER LAKE
(KENNEDY, G.G., ---. 11 JUN 1899)
GH HOLOTYPE
582. **VEXANS** HERMANN, F.J., RHODORA 57:156. 1955.

USA: FLORIDA: HENDRY CO.: CLEWISTON (DEAM, C.C., 61177.
19 MAR 1941)
US 2231425 HOLOTYPE

583. **VICARIA BAILEY, L.H.**, MEM. TORREY BOT. CLUB 1:49. 1889.
USA: OREGON: -- (HALL, E., ---. -- --- 1871)
GH HOLOTYPE

584. **VIOLACEA CLARKE, C.B.**, BULL. MISC. INFORM. ADD. SER. 8:87. 1908.
USA: COLORADO: ROCKY MOUNTAINS; LAT. 39-41 N. (HALL, E. AND
HARBOUR, J.P., 587. -- --- 1862)
MO TYPE COLLECTION

585. **VIRIDIOR MACKENZIE, K.K.** IN ABRAMS, L., ILL. FL. PACIFIC STATES
1:331. 1923.
USA: WASHINGTON: OKANOGAN CO.: SHEEP MOUNTAINS (EGGLESTON, W.W.,
3329. 30 JUL-01 AUG 1916)
US 886234 TYPE

586. **VIRIDULA FOR. PYGMAEA LEPAGE, E.**, NATURALISTE CANAD. 89:115. 1962.
CANADA: QUEBEC: UNGAVA BAY, SWAMPY BAY (DUTILLY, A. AND
LEPAGE, E., 39274. 16 AUG 1961)
GH ISOTYPE

587. **VITIENSIS ST. JOHN, H.**, PACIFIC SCI. 1:116, FIG. 1. 1947.
FIJI: --: VITI LEVU (ISLAND) (ST. JOHN, H., 18330. 18 AUG 1937)
US 1967819 ISOTYPE

588. **VITREA HOLM, H.T.**, AMER. J. SCI. SER. 4, 17:302. 1904.
USA: CALIFORNIA: RIVERSIDE CO.: PALM SPRINGS (PARISH, S.B.,
4144. 04-13 APR 1896)
F 89120 TYPE MATERIAL
MO ISOTYPE
US 279151 ISOTYPE

589. **VULPINOIDEA VAR. PYCNOCEPHALA HERMANN, F.J.**, RHODORA 38:363. 1936.
USA: MICHIGAN: EMMET CO.: BIG STONE BAY (HERMANN, F.J., 6408.
14 AUG 1934)
GH HOLOTYPE

-W-

590. **WAHUENSIS VAR. RUBIGINOSA KRAUSS, R.**, PACIFIC SCI.
4:257, FIG. 2, 3A-D. 1950.
USA: HAWAII: KILAUEA IKI (BEAN, R.S.; HOSAKA, E.Y. AND
ST. JOHN, H., 11228. 21 DEC 1931)
US 2074653 TYPE COLLECTION

591. **WATSONI OLNEY, S.T.** IN WATSON, S., BOT. U.S. GEOL. EXPLOR. 40TH PAR.
370. 1871.
USA: NEVADA: ORMSBY CO.: CARSON CITY (WATSON, S., 1246.

-- MAY 1868)
GH

HOLOTYPE

592. **WERDERMANNII** GROSS, R. IN WERDERMANN, E.,
NOTIZBL. BOT. GART. BERLIN-DAHLEM 10:763. 1929.
CHILE: LLANQUIHUE: ALT. 700 M. (WERDERMANN, E., 1687.
-- MAR 1925)
NY TYPE COLLECTION
593. **WHITNEYI** OLNEY, S.T. IN GRAY, A., PROC. AMER. ACAD. ARTS 7:394.
1868.
USA: CALIFORNIA: TUOLUMNE CO.: MOUNT DANA; ALT. 12000 FT.
(BOLANDER, H.N., 5086. -- --- 1866)
MO SYNTYPE
NY SYNTYPE
USA: CALIFORNIA: MARIPOSA CO.: YOSEMITE NATIONAL PARK,
YOSEMITE VALLEY (BOLANDER, H.N., 6198. -- --- 1866)
F 309085 SYNTYPE
F 309086 SYNTYPE
MO SYNTYPE
NY SYNTYPE
USA: CALIFORNIA: NEVADA CO.: SODA SPRINGS; ALT. 9000 FT.
(BREWER, W.H., 1778. 04 JUL 1863)
MO SYNTYPE
NY SYNTYPE
594. **WIEGANDII** MACKENZIE, K.K., N. AMER. FL. 18:108. 1931.
CANADA: NEWFOUNDLAND: BAY OF ISLANDS, HUMBER ARM, CURLING
(FERNALD, M.L. AND WIEGAND, K.M., 2776. 21 JUL 1910)
GH ISOTYPE
595. **WILKESII** TORREY, J. IN WILKES, C., U.S. EXPLOR. EXPED. 17:477, PL. 17.
1854.
USA: CALIFORNIA: SACRAMENTO RIVER (WILKES EXPLOR. EXPED., ---.
-- --- 1838-1842)
NY TYPE COLLECTION
596. **WILLDENOVII** VAR. **PAUCIFLORA**
OLNEY, S.T. EX BAILEY, L.H. IN COULTER, J.M.,
CONTR. U.S. NATL. HERB. 2:482. 1894.
USA: TEXAS: HARRIS CO.: HOUSTON (HALL, E., ---. -- --- 1872)
GH TYPE COLLECTION
597. **WILLDENOVII** VAR. **MEGARRHYNCHA** HERMANN, F.J., AMER. MIDL. NATURALIST
51:277. 1954.
USA: GEORGIA: JASPER CO.: OCMULGEE (SMITH, S.J. AND DUNCAN, W.H.,
4872. 06 APR 1949)
US 2133191 TYPE COLLECTION
598. **WILLIAMSII** BRITTON, N.L., BULL. NEW YORK BOT. GARD. 2:159. 1901.
CANADA: YUKON TERRITORY: DAWSON (WILLIAMS, R.S., ---.
12 JUN 1899)
NY TYPE

599. **WOODII** DEWEY, C., AMER. J. SCI. ARTS SER. 2, 2:249. 1846.
USA: NEW YORK: JEFFERSON CO.: PERCH LAKE, PERCH RIVER
(CRAWE, I. B. AND WOOD, W. A., ---. ---)
GH HOLOTYPE
600. **WRIGHTII** DEWEY, C. IN TORREY, J. IN EMORY, W. H.,
REP. U. S. MEX. BOUND. SURV., BOT. 2(1):232. 1859.
USA: TEXAS: -- (WRIGHT, C., 1561. -- --- 1850)
NY TYPE COLLECTION
- X-
601. **X XANTHINA** FERNALD, M. L., RHODORA 35:230. 1933.
CANADA: NEWFOUNDLAND: MAIN RIVER (FERNALD, M. L. AND LONG, B.,
1455. 27 AUG 1929)
GH HOLOTYPE
US 2050636 ISOTYPE
602. **XANTHOCARPA** VAR. **ANNECTANS** BICKNELL, E. P., BULL. TORREY BOT. CLUB
23:23. 1896.
USA: NEW YORK: LONG ISLAND, RICHMOND VALLEY (BRITTON, N. L., ---.
06 JUL 1895)
NY TYPE
603. **XERANTICA** BAILEY, L. H., BOT. GAZ. 17:151. 1892.
CANADA: SASKATCHEWAN: FILE HILLS; 50.5N., 104W. (MACOUN, JOHN,
---. 04 JUL 1879)
GH SYNTYPE
NY SYNTYPE
604. **XEROCARPA** WRIGHT, S. H. IN DEWEY, C., AMER. J. SCI. ARTS
SER. 2, 42:334. 1866.
USA: NEW YORK: STEUBEN CO.: PRATTSBURGH (WRIGHT, S. H., ---.
---)
NY TYPE COLLECTION

-Y-

605. **YUKONENSIS** BRITTON, N. L., BULL. NEW YORK BOT. GARD. 2:159. 1901.
CANADA: YUKON TERRITORY: BONANZA RIVER (WILLIAMS, R. S., ---.
18 JUN 1899)
NY TYPE

-Z-

606. **ZIZANIAEFOLIA** RAYMOND, M., MEM. JARD. BOT. MONTREAL 53:36. 1959.

CHINA: YUNNAN: -- (TSAI, H.T., 62809. -- --- 1934)
A HOLOTYPE

AUTHOR INDEX

AUTHOR	DATE	SPECIES
BAILEY, L.H.	1935	ABLATA
	1889	ACUTINA
	1889	ALBIDA
	1889	ALMA
	1893	AUSTRO-CAROLINIANA
	1886	*BRONGNIARTII
	1889	CALIFORNICA
	1884	*CANESCENS
	1920	CHIKUNGANA
	1889	COMMUNIS
	1889	DONNELL-SMITHII
	1893	DURIFOLIA
	1896	EGGERTII
	1889	ELEOCHARIS
	1886	ENGELMANNI
	1889	*FESTIVA
	1893	FETA
	1889	*FOENEA
	1886	*GAYANA
	1889	*GRISEA
	1884	HALLIANA
	1896	HASSEI
	1889	*HOODII
	1896	IDAHOA
	1889	ILLOTA
	1886	INOPS
	1893	INTERIOR
	1889	JONESII
	1920	KULINGANA
	1898	MADRENSIS
	1886	*MARCIDA
	1916	MARIPOSANA
	1889	*MILIARIS
	1892	MONTANENSIS
	1896	*NEBRASKENSIS
	1885	NERVINA
	1898	OAXACANA
	1888	PANSA
	1892	PRINGLEI
	1891	QUADRIFIDA
	1891	*QUADRIFIDA
	1886	*RETROCURVA
	1888	*ROSEA
	1898	SEATONIANA
	1889	SPECIFICA
	1889	SPRETA
	1893	*STERILIS
	1889	*STRAMINEA
	1889	*STRAMINEA

AUTHOR	DATE	SPECIES
BAILEY, L.H.	1886	*STYLOSA
	1889	*TERETIUSCULA
	1886	ULTRA
	1889	VICARIA
	1892	XERANTICA
BAILEY, L.H. IN MACOUN, JOHN BICKNELL, E.P.	1890	*PRATENSIS
	1908	ABDITA
	1908	INCOMPERTA
	1896	*XANTHOCARPA
	1947	ACROPHILA
BLAKE, S.T.	1947	BREVIS
	1947	EREMOSTACHYA
	1947	LAMPROCHLAMYS
	1947	MELANOPHORA
	1947	PERILEIA
BOECKELER, J.O.	1877	BURCHELLIANA
	1896	DURANDII
	1875	FENDLERIANA
	1886	FUSCOLUTEA
	1877	*LONGIROSTRIS
BOOTT, F.	1896	MANDONIANA
	1856	TRIANGULARIS
	1867	*ACUTA
	1846	BANKSII
	1867	BREWERI
BOOTT, F. IN GRAY, A.	1862	CONJUNCTA
	1858	*CRINITA
	1846	GEYERI
	1846	GRIFFITHII
	1867	HEBETATA
BOOTT, F. IN HOOKER, W.J.	1867	LACINIATA
	1867	OLIGANTHA
	1859	PARCIFLORA
	1846	SANGUINEA
	1862	*SCOPARIA
BOOTT, W.	1860	*TENTACULATA
	1863	*BONPLANDII
	1859	CONFERTIFLORA
	1859	MICANS
	1859	NANA
	1859	PAPULOSA
	1859	PICTA
	1839	APERTA
	1839	BACKII
	1839	FRANKLINII
	1839	HEPBURNII
	1884	ASSINIBOINENSIS
	1884	LEMMONI
	1884	PRAEGRACILIS

AUTHOR	DATE	SPECIES
BOOTT, W. IN WATSON, S.	1880	HETERONEURA
	1880	KELLOGGII
	1880	NUDATA
	1880	PHYLLOMANICA
	1883	SCHAFFNERI
	1880	*SCOPARIA
	1880	SUBFUSCA
BRITTON, N. L.	1901	BONANZENSIS
	1895	*STRICTA
	1905	UNDERWOODII
	1901	WILLIAMSI
	1901	YUKONENSIS
BROWN, F. B. H.	1930	TAHITENSIS
BROWN, R. IN RICHARDSON, J. IN FRANKLIN, J.	1819	PODOCARPA
	1819	RICHARDSONII
BUCKLEY, S. B.	1843	CAROLINIANA
	1843	MISERA
	1843	STYLOFLEXA
CAREY, J.	1847	PLATYPHYLLA
	1847	SYCHNOCEPHALA
CHAMISSE, L. A. EX STEUDEL, E. G.	1855	PACHYSTACHYA
CHAPMAN, A. W.	1860	*DIGITALIS
	1860	*STELLULATA
CHAPMAN, A. W. EX BOOTT, F.	1862	*STIPATA
CHAPMAN, A. W. EX DEWEY, C.	1847	BALTZELLII
CHEESEMAN, T. F.	1892	*COMANS
	1883	DEVIA
	1884	PETRIEI
CLARKE, C. B.	1908	AEQUA
	1908	FELIPENSIS
	1903	ICHANGENSIS
	1903	LANCIFOLIA
	1903	*LONGICRURIS
	1904	PRAINII
	1908	PSEUDOJAPONICA
	1907	SUBTRANSVERSA
	1908	VIOLACEA
CLARKE, C. B. IN MERRILL, E. D.	1906	RHYNCHACHAENIUM
CLAUSEN, R. T. AND WAHL, H. A.	1939	*ANGUSTIOR
CLOKEY, I. W.	1922	APODA
	1919	ARAPAHOENSIS
	1939	*INTERIOR
	1922	PAYSONIS
	1919	SUBIMPRESSA
	1919	*TRIBULOIDES
CRONQUIST, A.	1943	OBOVOIDEA
CURTIS, M. A. EX GRAY, A.	1841	AESTIVALIS
DEWEY, C.	1849	*ALOPECOIDEA
	1835	ARCTICA

AUTHOR	DATE	SPECIES
DEWEY, C.	1854	*ARISTATA
	1836	BACKANA
	1845	BUCKLEYI
	1842	*CEPHALOPHORA
	1826	COLLECTA
	1836	COLUMBIANA
	1861	*DOUGLASII
	1836	FESTIVA
	1846	FLACCOSPERMA
	1824	FORMOSA
	1846	HALEI
	1826	HALSEYANA
	1854	HAYDENII
	1826	HITCHCOCKIANA
	1836	HOOKERANA
	1849	IGNOTA
	1847	ILLINOENSIS
	1857	LAEVI-CONICA
	1846	LEAVENWORTHII
	1842	MEADII
	1857	MEEKII
	1836	MIRABILIS
	1854	NEBRASKENSIS
	1842	NUTTALLII
	1835	PARRYANA
	1836	PETASATA
	1836	PETRICOSA
	1861	RAYNOLDSII
	1842	SARTWELLII
	1825	SCHWEINITZII
	1826	SICCATA
	1824	TENERA
	1825	TRISPERMA
	1826	*UMBELLATA
	1866	*VAGINATA
	1861	VALLICOLA
	1846	WOODII
DEWEY, C. IN TORREY, J. IN EMORY, W. H.	1859	BARBARAE
	1859	THURBERI
	1859	WRIGHTII
DEWEY, C. IN WOOD, A.	1845	COOLEYI
	1861	*HIRSUTA
	1845	PRAIREA
DREJER, S. T. N.	1845	RETROCURVA
	1841	PRATENSIS
	1846	PREISSII
ESSENBACH, N. VON IN LEHMANN, J.	1942	*ABSCONDIRA
	1942	X ABSCONDIRIFORMIS
	1902	AENEA
FERNALD, M. L.		

AUTHOR	DATE	SPECIES
FERNALD, M. L.	1902	*ALATA
	1942	*AMPHIBOLA
	1942	BAYARDI
	1902	*CANESCENS
	1907	CILIARIS
	1902	CRAWFORDII
	1902	*CRAWFORDII
	1946	*CRINITA
	1897	*CRINITA
	1937	*CRUS-CORVI
	1942	*CUMULATA
	1942	*DEBILIS
	1913	*DEWEYANA
	1941	*DIGITALIS
	1938	*DIGITALIS
	1902	*ECHINATA
	1906	*FLAVA
	1935	GARBERI
	1935	*GARBERI
	1906	*GLAREOSA
	1906	HARPERI
	1906	HORMATHODES
	1942	*INFLATA
	1906	*INTERIOR
	1942	*INTUMESCENS
	1901	KATAHDINENSIS
	1933	LANGEANA
	1942	*LASIOCARPA
	1906	*LAXIFLORA
	1926	*LIVIDA
	1902	*MIRABILIS
	1902	*MIRABILIS
	1915	MISANDROIDES
	1902	ORONENSIS
	1942	*PALLESCENS
	1918	*PAUPERCULA
	1906	*PAUPERCULA
	1907	PERLONGA
	1933	X PSEUDO-FULVA
	1942	*RICHARDSONII
	1941	RUGATA
	1902	*SCOPARIA
	1921	*SCOPARIA
	1902	*STRAMINEA
	1902	*TENERA
	1942	TERRAE-NOVAE
	1933	X TRICHINA
	1901	*VESICARIA
	1933	*VESICARIA

AUTHOR	DATE	SPECIES
FERNALD, M. L.	1900	*VESTITA
	1933	X XANTHINA
FERNALD, M. L. AND WEATHERBY, C. A.	1931	CLIVICOLA
FERNALD, M. L. AND WIEGAND, K. M.	1911	*HORNSCHUCHIANA
	1924	*HOSTIANA
	1912	*SCOPARIA
	1910	*SCOPARIA
FRANCHET, A.	1895	FARGESII
	1896	PTEROLEPTA
FRANCHET, A. AND SAVATIER, L.	1879	MACROGLOSSA
	1879	*NUTANS
	1879	PLANATA
	1879	PODOGYNA
GANDOGGER, M.	1920	CRANDALLII
GAUDIN, J. F. G. P.	1830	*FLAVA
GRAY, A.	1867	*DEBILIS
GRAY, A. EX TORREY, J.	1836	*OLIGOCARPA
GROSS, R.	1941	*PHALAROIDES
	1941	*PIRCHINCHENSIS
	1941	*PURPUREOVAGINATA
	1941	SALTAENSIS
GROSS, R. IN WERDERMANN, E.	1929	WERDERMANNII
HEMSLEY, W. B.	1885	POTOSINA
HERMANN, F. J.	1955	AMPLISQUAMA
	1938	*ARTITECTA
	1957	ATHABASCENSIS
	1950	ATRACTODES
	1963	*BIPARTITA
	1967	CHIAPENSIS
	1938	X DEAMII
	1960	*EGGLESTONII
	1957	EURYSTACHYA
	1965	*FISSA
	1971	GUATEMALENSIS
	1957	INCONDITA
	1941	*INTERIOR
	1938	*LAXIFLORA
	1956	LIMNOPHILA
	1968	*MICROPTERA
	1937	PELOCARPA
	1950	PERCOSTATA
	1964	PLECTOCARPA
	1957	*PRATICOLA
	1950	QUICHENSIS
	1948	ROANENSIS
	1955	VEXANS
	1936	*VULPINOIDEA
	1954	*WILLDENOWII
HERMANN, F. J. IN MCVAUGH, R.	1949	MURICULATA

AUTHOR	DATE	SPECIES
HOCHSTETTER, C.F. EX STEUDEL, E.G. HOLM, H.T.	1855	MERCARENSIS
	1903	ACCEDENS
	1905	BRACHYPODA
	1905	CAMPLOYOCARPA
	1903	CHALCIOLEPIS
	1900	ELYNOIDES
	1905	EURYPARPA
	1903	*FESTIVA
	1902	GYMNOCLADA
	1904	LACUNARUM
	1905	*LUZULAEFOLIA
	1904	MICROCHAETA
	1905	OXYCARPA
	1905	PACHYSTOMA
	1904	PHAEOLEPIS
	1904	PHYSOCHLAENA
	1902	PRIONPHYLLA
	1904	*SCIRPOIDEA
	1904	*SCIRPOIDEA
	1904	VAGANS
	1904	VITREA
HOOKER, J.D. HOWE, E.C. IN GORDINIER, H.C. AND HOWE, E.C. HOWELL, J.T.	1887	SCAPOSA
	1894	ROSAEOIDES
	1958	JEPSONII
	1949	SPECUICOLA
	1961	TOMPKINSI
HULTEN, O.E.G. JONES, M.E.	1942	JACOBI-PETERI
	1910	ABORIGINUM
	1910	ELRODI
	1910	STANTONENSIS
	1945	ELBERTANA
KELSO, L.	1950	ERXLEBENIANA
	1945	HAGIANA
	1947	UNCOMPAHGRE
	1906	*TRISPERMA
	1969	OBLANCEOLATA
KNIGHT, O.W. KOYAMA, T.	1959	TAMAKII
	1950	KAUAIENSIS
KRAUSS, R.	1950	*PLUVICA
	1950	*WAHUENSIS
	1934	PHILOCRENA
	1929	*APERTA
	1929	*APERTA
	1910	ARSENII
	1910	*BRUNNEA
	1926	CUBENSIS
	1926	*CUBENSIS
	1926	EKMANNII
KRECZETOWICZ, V.I. KUKENTHAL, G.	1910	ELMERI

AUTHOR	DATE	SPECIES
KUKENTHAL, G.	1929	*EURYCARPA
	1929	*INTERRUPTA
	1910	*JAMESONI
	1910	MERRILLII
	1902	MICRANTHA
	1899	*MICROGLOCHIN
	1911	PYCNOTHYSOS
	1910	RAMOSII
	1938	SARAWAKETENSIS
	1935	SAVAIIENSIS
	1920	SUKSDORFII
	1920	*SUKSDORFII
	1929	*EKMANII
	1911	PALAWANENSIS
	1909	*AQUATILIS
	1909	*CLADOSTACHYA
	1909	*FILIFOLIA
	1909	*HINDSII
	1909	*LEMANNIANA
	1909	*LENTICULARIS
KUKENTHAL, G. AND EKMAN, E. L. KUKENTHAL, G. IN ELMER, A. D. E. KUKENTHAL, G. IN ENGLER, H. G. A.	1909	*NUDATA
	1909	*PINETORUM
	1909	*STIPATA
	1909	*TENUIFLORA
	1837	STEUDELII
	1956	X DUMANII
	1956	X EXSALINA
	1964	X NEOBIGELOWII
	1956	X NEOFILIPENDULA
	1956	X NEOPALEACEA
KUNTH, C. S. LEPAGE, E.	1957	X NUBENS
	1962	X PATUENSIS
	1964	X QUEBECENSIS
	1956	*X SAXENII
	1962	*VIRIDULA
	1899	*STENOPHYLLA
LITVINOV, D. I. MACKENZIE, K. K.	1909	ABRAMSII
	1916	ABRUPTA
	1935	ACUTINELLA
	1910	AESTIVALIFORMIS
	1906	AGGLOMERATA
	1910	AGGREGATA
	1907	AGROSTOIDES
	1931	ARCTAEFORMIS
	1912	ATROSQUAMA
	1931	AUTUMNALIS
	1935	AZTECICA
	1910	BILTMOREANA
	1913	BRAINERDII

AUTHOR	DATE	SPECIES
MACKENZIE, K.K.	1913	BREVICAULIS
	1907	BREVISQUAMA
	1915	BULBOSTYLIS
	1910	BUSHII
	1935	CAESARIENSIS
	1908	CHIHUAHUAENSIS
	1906	CONCINNOIDES
	1935	CONSPECTA
	1916	CONVOLUTA
	1914	CRYPTOLEPIS
	1916	DAVYI
	1910	DEBILIFORMIS
	1922	DUDLEYI
	1915	EGGLESTONII
	1915	EGREGIA
	1915	FESTIVELLA
	1931	FISSA
	1909	FISSURICOLA
	1922	FLACCIFOLIA
	1922	FRACTA
	1910	FULVESCENS
	1909	FUSCOTINCTA
	1913	GEOPHILA
	1916	GRACILIOR
	1916	HARFORDII
	1922	HELLERI
	1909	HOLMIANA
	1916	INTEGRA
	1931	INVOLUCRATELLA
	1916	LANCIFRUCTUS
	1935	LEIOPHYLLA
	1916	LEPORINELLA
	1915	LUNELLIANA
	1909	MACROSPERMA
	1906	MEDITERRANIA
	1923	MERRITT-FERNALDII
	1910	MESOCHOREA
	1909	MICROPTERA
	1935	MISERABILIS
	1931	MOHRIANA
	1931	MOLESTA
	1922	MONTEREYENSIS
	1916	MULTICOSTATA
	1907	NEOMEXICANA
	1909	NUBICOLA
	1914	OKLAHOMENSIS
	1916	OLYMPICA
	1915	ONUSTA
	1916	PACHYCARPA

AUTHOR	DATE	SPECIES
MACKENZIE, K.K.	1922	PAUCICOSTATA
	1907	PERGLOBOSA
	1909	PERSTRICTA
	1913	PITYOPHILA
	1931	PLATYLEPIS
	1931	PRAECEPTORIUM
	1908	PROJECTA
	1931	PROPOSITA
	1935	PURPURIFERA
	1915	RUGOSPERMA
	1915	RUSBYI
	1931	RUTHII
	1909	SALINAEFORMIS
	1906	SAXIMONTANA
	1908	SCABRIUSCULA
	1908	SCIRPIFORMIS
	1915	SHELDONII
	1907	SIMULATA
	1909	SMALLIANA
	1935	STELLATA
	1922	STENOPTERA
	1916	SUB-BRACTEATA
	1916	TENERAEFORMIS
	1931	TOWNSENDII
	1922	TRACYI
	1907	TUMULICOLA
	1922	UNILATERALIS
	1931	WIEGANDII
MACKENZIE, K.K. EX BRIGHT, J.	1930	LARICINA
MACKENZIE, K.K. IN ABRAMS, L.	1923	NEUROPHORA
	1923	SUBORBICULATA
	1923	VIRIDIOR
MACKENZIE, K.K. IN PIPER, C.V. AND BEATTIE,	1915	CUSICKII
	1915	PIPERI
MACKENZIE, K.K. IN RYDBERG, P.A.	1917	ALBO-NIGRA
	1917	ANGUSTIOR
	1917	EPAPILLOSA
	1917	INCURVIFORMIS
	1917	LEPTOPODA
	1917	NELSONII
	1913	MAGNIFOLIA
	1944	INTERIMUS
MACKENZIE, K.K. IN SMALL, J.K.	1944	RACHILLIS
	1944	*VERNACULA
MAGUIRE, B. AND HOLMGREN, A.H.	1946	*CAMPYLOCARPA
MARIE-VICTORIN, (FRERE)	1929	*OEDERI
MERRILL, E.D.	1918	BAMBUSETORUM
	1934	*RUBRO-BRUNNEA
MERRILL, E.D. AND CHUN, N.K.	1935	TSOI

AUTHOR	DATE	SPECIES
MEYER, C. A.	1831	CIRCINNATA
	1831	LEIOCARPA
	1831	NIGRICANS
MOHR, C.	1910	*STIPATA
MUHLENBERG, H. EX WILLDENOW, C. L.	1805	RETROFLEXA
NELMES, E.	1938	EXPLORATORUM
	1939	SCHNEIDERI
	1955	TRICHOPHYLLA
O'NEILL, H. T.	1940	BARTLETTII
O'NEILL, H. T. AND DUMAN, M.	1941	DUTILLYI
OHWI, J.	1934	APODOSTACHYA
	1931	CUNEATA
	1934	HATUSIMANA
	1932	HYMENODON
	1933	KURILENSIS
	1932	RUGATA
	1952	TETSUOI
OLNEY, S. T.	1871	PORTERI
OLNEY, S. T. EX BAILEY, L. H.	1884	*ADUSTA
	1888	*DEWEYANA
	1886	*LEPORINA
	1886	OREGONENSIS
OLNEY, S. T. EX BAILEY, L. H. IN COULTER, J. M.	1894	*WILLDENOVII
OLNEY, S. T. EX BOOTT, W. IN WATSON, S.	1880	MENDOCINENSIS
OLNEY, S. T. IN GRAY, A.	1868	ATHROSTACHYA
	1868	CINNAMOMEA
	1868	GYNODYNAMA
	1868	LUZULINA
	1868	SARTWELLIANA
	1868	WHITNEYI
OLNEY, S. T. IN PORTER, T. C. IN HAYDEN, F. V.	1872	HALLII
OLNEY, S. T. IN WATSON, S.	1871	*AUREA
	1871	HAYDENIANA
	1871	WATSONI
PARISH, S. B.	1905	AUSTROMONTANA
	1905	JACINTOENSIS
PECK, C. H.	1895	*ROSEA
	1894	*ROSEA
	1895	*STIPATA
	1893	*TORTA
PETRIE, D.	1881	KALOIDES
	1882	LONGICULMIS
PIPER, C. V.	1906	*HOODII
	1906	PHAEOCEPHALA
PORSILD, A. E.	1943	*ATROFUSCA
	1939	KOKRINENSIS
	1939	MELOZITNENSIS
	1943	MORRISSEYI
PRESL, K. B.	1828	ANTHOXANTHERA

AUTHOR	DATE	SPECIES
RAUP, H.M.	1947	SOPERI
RAYMOND, M.	1959	SURCULOSA
	1959	ZIZANIAEFOLIA
ROACH, A.W.	1952	DIVERSISTYLIS
RYDBERG, P.A.	1901	EBENEA
SARTWELL, H.P. EX DEWEY, C.	1855	CHAPMANI
	1849	SCABRIOR
SCHWEINITZ, L.D.	1824	COSTATA
	1824	CRISTATA
	1824	GRACILLIMA
	1824	NIGRO-MARGINATA
	1824	NOVAE-ANGLIAE
SCHWEINITZ, L.D. AND TORREY, J.	1824	BARRATTII
SHUTTLEWORTH, R.J. EX KUNZE, G.	1844	CRUS-CORVI
ST. JOHN, H.	1947	VITIENSIS
STACEY, J.W.	1938	CONSTANCEANA
	1937	CURATORII
	1939	DANAENSIS
	1938	EASTWOODIANA
	1936	OBISPOENSIS
	1937	SONOMENSIS
	1939	SUBNIGRICANS
STANDLEY, P.C.	1947	STEYERMARKII
STANDLEY, P.C. AND STEYERMARK, J.A.	1953	CUCHUMATANENSIS
	1947	HUEHUETECA
	1953	TOJQUIANENSIS
	1953	TUNIMANENSIS
	1953	VENOSIVAGINATA
STEUDEL, E.G.	1855	AMPHIBOLA
	1855	AUROLENSIS
	1855	FLACCIDULA
	1855	INCISO-DENTATA
	1855	MACROKOLEA
	1855	PICTA
	1855	PRESLII
	1855	PTYCHOCARPA
STEYERMARK, J.A.	1964	AZUAYAE
	1951	CULMENICOLA
	1951	LARENSIS
	1951	RORAIMENSIS
	1952	STANDLEYANA
	1951	TACHIRENSIS
	1951	TAMANA
	1954	TOREADORA
	1951	TURUMIQUIRENSIS
SUKSDORF, W.N.	1923	*NEBRASKENSIS
	1906	PADDOENSIS
TORREY, J.	1836	ALATA
	1836	JAMESII

AUTHOR	DATE	SPECIES
TORREY, J.	1836	SCOULERI
	1836	TURDESCENS
TORREY, J. EX DEWEY, C.	1836	CAREYANA
	1846	HETEROSTACHYA
	1836	HOUGHTONIANA
TORREY, J. IN WILKES, C.	1854	WILKESII
TUCKERMAN, E.	1843	ALOPECOIDEA
	1843	*CANESCENS
	1843	*SCOPARIA
TUCKERMAN, E. EX DEWEY, C.	1860	ARGYRANTHA
TUCKERMAN, E. EX OLNEY, S.T. IN GRAY, A.	1868	GLAUCODEA
UNDERWOOD, J.K.	1945	*OXYLEPIS
WAHLENBERG, G.	1803	AQUATILIS
WATERFALL, U.T.	1954	LATEBRACTEATA
WEATHERBY, C.A.	1936	MACKENZIANA
WIEGAND, K.M.	1922	CREBRIFLORA
	1922	ORMOSTACHYA
WRIGHT, S.H. IN DEWEY, C.	1866	XEROCARPA

PUBLICATION-DATE INDEX

DATE	TAXON	AUTHOR
1803	AQUATILIS	WAHLENBERG, G.
1805	RETROFLEXA	MUHLENBERG, H. EX WILLDENOW, C. L.
1819	PODOCARPA	BROWN, R. IN RICHARDSON, J. IN FRANKLIN, J.
	RICHARDSONII	BROWN, R. IN RICHARDSON, J. IN FRANKLIN, J.
1824	BARRATTII	SCHWEINITZ, L. D. AND TORREY, J.
	COSTATA	SCHWEINITZ, L. D.
	CRISTATA	SCHWEINITZ, L. D.
	FORMOSA	DEWEY, C.
	GRACILLIMA	SCHWEINITZ, L. D.
	NIGRO-MARGINATA	SCHWEINITZ, L. D.
	NOVAE-ANGLIAE	SCHWEINITZ, L. D.
	TENERA	DEWEY, C.
1825	SCHWEINITZII	DEWEY, C.
	TRISPERMA	DEWEY, C.
1826	COLLECTA	DEWEY, C.
	HALSEYANA	DEWEY, C.
	HITCHCOCKIANA	DEWEY, C.
	SICCATA	DEWEY, C.
	*UMBELLATA	DEWEY, C.
1828	ANTHOXANTHERA	PRESL, K. B.
1830	*FLAVA	GAUDIN, J. F. G. P.
1831	CIRCINNATA	MEYER, C. A.
	LEIOCARPA	MEYER, C. A.
	NIGRICANS	MEYER, C. A.
1835	ARCTICA	DEWEY, C.
	PARRYANA	DEWEY, C.
1836	ALATA	TORREY, J.
	BACKANA	DEWEY, C.
	CAREYANA	TORREY, J. EX DEWEY, C.
	COLUMBIANA	DEWEY, C.
	FESTIVA	DEWEY, C.
	HOOKERANA	DEWEY, C.
	HOUGHTONIANA	TORREY, J. EX DEWEY, C.
	JAMESII	TORREY, J.
	MIRABILIS	DEWEY, C.
	*OLIGOCARPA	GRAY, A. EX TORREY, J.
	PETASATA	DEWEY, C.
	PETRICOSA	DEWEY, C.
	SCOULERI	TORREY, J.
	TURDESCENS	TORREY, J.
1837	STEUDELII	KUNTH, C. S.
1839	APERTA	BOOTT, F. IN HOOKER, W. J.
	BACKII	BOOTT, F. IN HOOKER, W. J.
	FRANKLINII	BOOTT, F. IN HOOKER, W. J.
	HEPBURNII	BOOTT, F. IN HOOKER, W. J.
1841	AESTIVALIS	CURTIS, M. A. EX GRAY, A.
	PRATENSIS	DREJER, S. T. N.
1842	*CEPHALOPHORA	DEWEY, C.
	MEADII	DEWEY, C.

DATE	TAXON	AUTHOR
1842	NUTTALLII	DEWEY, C.
	SARTWELLII	DEWEY, C.
1843	ALOPECOIDEA	TUCKERMAN, E.
	*CANESCENS	TUCKERMAN, E.
	CAROLINIANA	BUCKLEY, S. B.
	MISERA	BUCKLEY, S. B.
	*SCOPARIA	TUCKERMAN, E.
	STYLOFLEXA	BUCKLEY, S. B.
1844	CRUS-CORVI	SHUTTLEWORTH, R. J. EX KUNZE, G.
1845	BUCKLEYI	DEWEY, C.
	COOLEYI	DEWEY, C. IN WOOD, A.
	PRAIREA	DEWEY, C. IN WOOD, A.
	RETROCURVA	DEWEY, C. IN WOOD, A.
1846	BANKSII	BOOTT, F.
	FLACCOSPERMA	DEWEY, C.
	GEYERI	BOOTT, F.
	GRIFFITHII	BOOTT, F.
	HALEI	DEWEY, C.
	HETEROSTACHYA	TORREY, J. EX DEWEY, C.
	LEAVENWORTHII	DEWEY, C.
	PREISSII	ESSENBAACH, N. VON IN LEHMANN, J.
	SANGUINEA	BOOTT, F.
	WOODII	DEWEY, C.
1847	BALTZELLII	CHAPMAN, A. W. EX DEWEY, C.
	ILLINOENSIS	DEWEY, C.
	PLATYPHYLLA	CAREY, J.
	SYCHNOCEPHALA	CAREY, J.
1849	*ALOPECOIDEA	DEWEY, C.
	IGNOTA	DEWEY, C.
	SCABRIOR	SARTWELL, H. P. EX DEWEY, C.
1854	*ARISTATA	DEWEY, C.
	HAYDENII	DEWEY, C.
	NEBRASKENSIS	DEWEY, C.
	WILKESII	TORREY, J. IN WILKES, C.
1855	AMPHIBOLA	STEUDEL, E. G.
	AUROLENSIS	STEUDEL, E. G.
	CHAPMANI	SARTWELL, H. P. EX DEWEY, C.
	FLACCIDULA	STEUDEL, E. G.
	INCISO-DENTATA	STEUDEL, E. G.
	MACROKOLEA	STEUDEL, E. G.
	MERCARENSIS	HOCHSTETTER, C. F. EX STEUDEL, E. G.
	PACHYSTACHYA	CHAMISSO, L. A. EX STEUDEL, E. G.
	PICTA	STEUDEL, E. G.
	PRESLII	STEUDEL, E. G.
	PTYCHOCARPA	STEUDEL, E. G.
1856	TRIANGULARIS	BOECKELER, J. O.
1857	LAEVI-CONICA	DEWEY, C.
	MEEKII	DEWEY, C.
1858	*CRINITA	BOOTT, F.

DATE	TAXON	AUTHOR
1859	BARBARAE	DEWEY, C. IN TORREY, J. IN EMORY, W. H.
	CONFERTIFLORA	BOOTT, F. IN GRAY, A.
	MICANS	BOOTT, F. IN GRAY, A.
	NANA	BOOTT, F. IN GRAY, A.
	PAPULOSA	BOOTT, F. IN GRAY, A.
	PARCIFLORA	BOOTT, F.
	PICTA	BOOTT, F. IN GRAY, A.
	THURBERI	DEWEY, C. IN TORREY, J. IN EMORY, W. H.
	WRIGHTII	DEWEY, C. IN TORREY, J. IN EMORY, W. H.
1860	ARGYRANTHA	TUCKERMAN, E. EX DEWEY, C.
	*DIGITALIS	CHAPMAN, A. W.
	*STELLULATA	CHAPMAN, A. W.
	*TENTACULATA	BOOTT, F.
1861	*DOUGLASII	DEWEY, C.
	*HIRSUTA	DEWEY, C. IN WOOD, A.
	RAYNOLDsii	DEWEY, C.
	VALLICOLA	DEWEY, C.
1862	CONJUNCTA	BOOTT, F.
	*SCOPARIA	BOOTT, F.
	*STIPATA	CHAPMAN, A. W. EX BOOTT, F.
1863	*BONPLANDII	BOOTT, F. IN GRAY, A.
1866	*VAGINATA	DEWEY, C.
	XEROCARPA	WRIGHT, S. H. IN DEWEY, C.
1867	*ACUTA	BOOTT, F.
	BREWERI	BOOTT, F.
	*DEBILIS	GRAY, A.
	HEBETATA	BOOTT, F.
	LACINIATA	BOOTT, F.
	OLIGANTHA	BOOTT, F.
1868	ATHROSTACHYA	OLNEY, S. T. IN GRAY, A.
	CINNAMOMEA	OLNEY, S. T. IN GRAY, A.
	GLAUCODEA	TUCKERMAN, E. EX OLNEY, S. T. IN GRAY, A.
	GYNODYNAMA	OLNEY, S. T. IN GRAY, A.
	LUZULINA	OLNEY, S. T. IN GRAY, A.
	SARTWELLIANA	OLNEY, S. T. IN GRAY, A.
	WHITNEYI	OLNEY, S. T. IN GRAY, A.
1871	*AUREA	OLNEY, S. T. IN WATSON, S.
	HAYDENIANA	OLNEY, S. T. IN WATSON, S.
	PORTERI	OLNEY, S. T.
	WATSONI	OLNEY, S. T. IN WATSON, S.
1872	HALLII	OLNEY, S. T. IN PORTER, T. C. IN HAYDEN, F. V.
1875	FENDLERIANA	BOECKELER, J. O.
1877	BURCHELLIANA	BOECKELER, J. O.
	*LONGIROSTRIS	BOECKELER, J. O.
1879	MACROGLOSSA	FRANCHET, A. AND SAVATIER, L.
	*NUTANS	FRANCHET, A. AND SAVATIER, L.
	PLANATA	FRANCHET, A. AND SAVATIER, L.
	PODOGYNA	FRANCHET, A. AND SAVATIER, L.
1880	HETERONEURA	BOOTT, W. IN WATSON, S.

DATE	TAXON	AUTHOR
1880	KELLOGGII	BOOTT, W. IN WATSON, S.
	MENDOCINENSIS	OLNEY, S.T. EX BOOTT, W. IN WATSON, S.
	NUDATA	BOOTT, W. IN WATSON, S.
	PHYLLOMANICA	BOOTT, W. IN WATSON, S.
	*SCOPARIA	BOOTT, W. IN WATSON, S.
	SUBFUSCA	BOOTT, W. IN WATSON, S.
1881	KALOIDES	PETRIE, D.
1882	LONGICULMIS	PETRIE, D.
1883	DEVIA	CHEESEMAM, T.F.
	SCHAFFNERI	BOOTT, W. IN WATSON, S.
1884	*AUSTA	OLNEY, S.T. EX BAILEY, L.H.
	ASSINIBOINENSIS	BOOTT, W.
	*CANESCENS	BAILEY, L.H.
	HALLIANA	BAILEY, L.H.
	LEMMONI	BOOTT, W.
	PETRIE	CHEESEMAM, T.F.
	PRAEGRACILIS	BOOTT, W.
1885	NERVINA	BAILEY, L.H.
	POTOSINA	HEMSLEY, W.B.
1886	*BRONGNIARTII	BAILEY, L.H.
	ENGELMANNI	BAILEY, L.H.
	FUSCULTEA	BOECKELER, J.O.
	*GAYANA	BAILEY, L.H.
	INOPS	BAILEY, L.H.
	*LEPORINA	OLNEY, S.T. EX BAILEY, L.H.
	*MARCIDA	BAILEY, L.H.
	OREGONENSIS	OLNEY, S.T. EX BAILEY, L.H.
	*RETROCURVA	BAILEY, L.H.
	*STYLOSA	BAILEY, L.H.
	ULTRA	BAILEY, L.H.
1887	SCAPOSA	HOOKE, J.D.
1888	*DEWEYANA	OLNEY, S.T. EX BAILEY, L.H.
	PANSA	BAILEY, L.H.
	*ROSEA	BAILEY, L.H.
1889	ACUTINA	BAILEY, L.H.
	ALBIDA	BAILEY, L.H.
	ALMA	BAILEY, L.H.
	CALIFORNICA	BAILEY, L.H.
	COMMUNIS	BAILEY, L.H.
	DONNELL-SMITHII	BAILEY, L.H.
	ELEOCHARIS	BAILEY, L.H.
	*FESTIVA	BAILEY, L.H.
	*FOENEA	BAILEY, L.H.
	*GRISEA	BAILEY, L.H.
	*HOODII	BAILEY, L.H.
	ILLOTA	BAILEY, L.H.
	JONESII	BAILEY, L.H.
	*MILIARIS	BAILEY, L.H.
	SPECIFICA	BAILEY, L.H.

DATE	TAXON	AUTHOR
1889	SPRETA	BAILEY, L.H.
	*STRAMINEA	BAILEY, L.H.
	*STRAMINEA	BAILEY, L.H.
	*TERETIUSCULA	BAILEY, L.H.
	VICARIA	BAILEY, L.H.
1890	*PRATENSIS	BAILEY, L.H. IN MACOUN, JOHN
1891	QUADRIFIDA	BAILEY, L.H.
	*QUADRIFIDA	BAILEY, L.H.
1892	*COMANS	CHEESEMAN, T.F.
	MONTANENSIS	BAILEY, L.H.
	PRINGLEI	BAILEY, L.H.
	XERANTICA	BAILEY, L.H.
1893	AUSTRO-CAROLINIANA	BAILEY, L.H.
	DURIFOLIA	BAILEY, L.H.
	FETA	BAILEY, L.H.
	INTERIOR	BAILEY, L.H.
	*STERILIS	BAILEY, L.H.
	*TORTA	PECK, C.H.
1894	ROSAEOIDES	HOWE, E.C. IN GORDINIER, H.C. AND HOWE, E.C.
	*ROSEA	PECK, C.H.
	*WILLDENOVII	OLNEY, S.T. EX BAILEY, L.H. IN COULTER, J.M.
1895	FARGESII	FRANCHET, A.
	*ROSEA	PECK, C.H.
	*STIPATA	PECK, C.H.
	*STRICTA	BRITTON, N.L.
1896	DURANDII	BOECKELER, J.O.
	EGGERTII	BAILEY, L.H.
	HASSEI	BAILEY, L.H.
	IDAHOA	BAILEY, L.H.
	MANDONIANA	BOECKELER, J.O.
	*NEBRASKENSIS	BAILEY, L.H.
	PTEROLEPTA	FRANCHET, A.
	*XANTHOCARPA	BICKNELL, E.P.
1897	*CRINITA	FERNALD, M.L.
1898	MADRENSIS	BAILEY, L.H.
	OAXACANA	BAILEY, L.H.
	SEATONIANA	BAILEY, L.H.
1899	*MICROGLOCHIN	KUKENTHAL, G.
	*STENOPHYLLA	LITVINOV, D.I.
1900	ELYNOIDES	HOLM, H.T.
	*VESTITA	FERNALD, M.L.
1901	BONANZENSIS	BRITTON, N.L.
	EBENEA	RYDBERG, P.A.
	KATAHDINENSIS	FERNALD, M.L.
	*VESICARIA	FERNALD, M.L.
	WILLIAMSII	BRITTON, N.L.
	YUKONENSIS	BRITTON, N.L.
1902	AENEA	FERNALD, M.L.
	*ALATA	FERNALD, M.L.

DATE	TAXON	AUTHOR
1902	*CANESCENS	FERNALD, M.L.
	CRAWFORDII	FERNALD, M.L.
	*CRAWFORDII	FERNALD, M.L.
	*ECHINATA	FERNALD, M.L.
	GYMNOCLADA	HOLM, H.T.
	MICRANTHA	KUKENTHAL, G.
	*MIRABILIS	FERNALD, M.L.
	*MIRABILIS	FERNALD, M.L.
	ORONENSIS	FERNALD, M.L.
	PRIONPHYLLA	HOLM, H.T.
	*SCOPARIA	FERNALD, M.L.
	*STRAMINEA	FERNALD, M.L.
	*TENERA	FERNALD, M.L.
1903	ACCEDENS	HOLM, H.T.
	CHALCIOLEPIS	HOLM, H.T.
	*FESTIVA	HOLM, H.T.
	ICHANGENSIS	CLARKE, C.B.
	LANCIFOLIA	CLARKE, C.B.
	*LONGICRURIS	CLARKE, C.B.
1904	LACUNARUM	HOLM, H.T.
	MICROCHAETA	HOLM, H.T.
	PHAEOLEPIS	HOLM, H.T.
	PHYSOCHLAENA	HOLM, H.T.
	PRAINII	CLARKE, C.B.
	*SCIRPOIDEA	HOLM, H.T.
	*SCIRPOIDEA	HOLM, H.T.
	VAGANS	HOLM, H.T.
	VITREA	HOLM, H.T.
1905	AUSTROMONTANA	PARISH, S.B.
	BRACHYPODA	HOLM, H.T.
	CAMPLYOCARPA	HOLM, H.T.
	EURYCARPA	HOLM, H.T.
	JACINTOENSIS	PARISH, S.B.
	*LUZULAEFOLIA	HOLM, H.T.
	OXYCARPA	HOLM, H.T.
	PACHYSTOMA	HOLM, H.T.
	UNDERWOODII	BRITTON, N.L.
1906	AGGLOMERATA	MACKENZIE, K.K.
	CONCINNOIDES	MACKENZIE, K.K.
	*FLAVA	FERNALD, M.L.
	*GLAREOSA	FERNALD, M.L.
	HARPERI	FERNALD, M.L.
	*HOODII	PIPER, C.V.
	HORMATHODES	FERNALD, M.L.
	*INTERIOR	FERNALD, M.L.
	*LAXIFLORA	FERNALD, M.L.
	MEDITERRANIA	MACKENZIE, K.K.
	PADOENSIS	SUKSDORF, W.N.
	*PAUPERCULA	FERNALD, M.L.

DATE	TAXON	AUTHOR
1906	PHAEOCEPHALA	PIPER, C.V.
	RHYNCHACHAENIUM	CLARKE, C.B. IN MERRILL, E.D.
	SAXIMONTANA	MACKENZIE, K.K.
	*TRISPERMA	KNIGHT, O.W.
1907	AGROSTOIDES	MACKENZIE, K.K.
	BREVISQUAMA	MACKENZIE, K.K.
	CILIARIS	FERNALD, M.L.
	NEOMEXICANA	MACKENZIE, K.K.
	PERGLOBOSA	MACKENZIE, K.K.
	PERLONGA	FERNALD, M.L.
	SIMULATA	MACKENZIE, K.K.
	SUBTRANSVERSA	CLARKE, C.B.
	TUMULICOLA	MACKENZIE, K.K.
1908	ABDITA	BICKNELL, E.P.
	AEQUA	CLARKE, C.B.
	CHIHUAHUAENSIS	MACKENZIE, K.K.
	FELIPENSIS	CLARKE, C.B.
	INCOMPERTA	BICKNELL, E.P.
	PROJECTA	MACKENZIE, K.K.
	PSEUDOJAPONICA	CLARKE, C.B.
	SCABRIUSCULA	MACKENZIE, K.K.
	SCIRPIIFORMIS	MACKENZIE, K.K.
	VIOLACEA	CLARKE, C.B.
1909	ABRAMSII	MACKENZIE, K.K.
	*AQUATILIS	KUKENTHAL, G. IN ENGLER, H.G.A.
	*CLADOSTACHYA	KUKENTHAL, G. IN ENGLER, H.G.A.
	*FILIFOLIA	KUKENTHAL, G. IN ENGLER, H.G.A.
	FISSURICOLA	MACKENZIE, K.K.
	FUSCOTINCTA	MACKENZIE, K.K.
	*HINDSII	KUKENTHAL, G. IN ENGLER, H.G.A.
	HOLMIANA	MACKENZIE, K.K.
	*LEMANNIANA	KUKENTHAL, G. IN ENGLER, H.G.A.
	*LENTICULARIS	KUKENTHAL, G. IN ENGLER, H.G.A.
	MACROSPERMA	MACKENZIE, K.K.
	MICROPTERA	MACKENZIE, K.K.
	NUBICOLA	MACKENZIE, K.K.
	*NUDATA	KUKENTHAL, G. IN ENGLER, H.G.A.
	PERSTRICTA	MACKENZIE, K.K.
	*PINETORUM	KUKENTHAL, G. IN ENGLER, H.G.A.
	SALINAEFORMIS	MACKENZIE, K.K.
	SMALLIANA	MACKENZIE, K.K.
	*STIPATA	KUKENTHAL, G. IN ENGLER, H.G.A.
	*TENUIFLORA	KUKENTHAL, G. IN ENGLER, H.G.A.
1910	ABORIGINUM	JONES, M.E.
	AESTIVALIFORMIS	MACKENZIE, K.K.
	AGGREGATA	MACKENZIE, K.K.
	ARSENII	KUKENTHAL, G.
	BILTMOREANA	MACKENZIE, K.K.
	*BRUNNEA	KUKENTHAL, G.

DATE	TAXON	AUTHOR
1910	BUSHII	MACKENZIE, K.K.
	DEBILIFORMIS	MACKENZIE, K.K.
	ELMERI	KUKENTHAL, G.
	ELRODI	JONES, M.E.
	FULVESCENS	MACKENZIE, K.K.
	*JAMESONI	KUKENTHAL, G.
	MERRILLII	KUKENTHAL, G.
	MESOCHOREA	MACKENZIE, K.K.
	RAMOSII	KUKENTHAL, G.
	*SCOPARIA	FERNALD, M.L. AND WIEGAND, K.M.
	STANTONENSIS	JONES, M.E.
	*STIPATA	MOHR, C.
1911	*HORN SCHUCHIANA	FERNALD, M.L. AND WIEGAND, K.M.
	PALAWANENSIS	KUKENTHAL, G. IN ELMER, A.D.E.
	PYCNOTHYSOS	KUKENTHAL, G.
1912	ATROSQUAMA	MACKENZIE, K.K.
	*SCOPARIA	FERNALD, M.L. AND WIEGAND, K.M.
1913	BRAINERDII	MACKENZIE, K.K.
	BREVICAULIS	MACKENZIE, K.K.
	*DEWEYANA	FERNALD, M.L.
	GEOPHILA	MACKENZIE, K.K.
	MAGNIFOLIA	MACKENZIE, K.K. IN SMALL, J.K.
	PITYOPHILA	MACKENZIE, K.K.
1914	CRYPTOLEPIS	MACKENZIE, K.K.
	OKLAHOMENSIS	MACKENZIE, K.K.
1915	BULBOSTYLIS	MACKENZIE, K.K.
	CUSICKII	MACKENZIE, K.K. IN PIPER, C.V. AND BEATTIE, R.K.
	EGGLESTONII	MACKENZIE, K.K.
	EGREGIA	MACKENZIE, K.K.
	FESTIVELLA	MACKENZIE, K.K.
	LUNELLIANA	MACKENZIE, K.K.
	MISANDROIDES	FERNALD, M.L.
	ONUSTA	MACKENZIE, K.K.
	PIPERI	MACKENZIE, K.K. IN PIPER, C.V. AND BEATTIE, R.K.
	RUGOSPERMA	MACKENZIE, K.K.
	RUSBYI	MACKENZIE, K.K.
	SHELDONII	MACKENZIE, K.K.
1916	ABRUPTA	MACKENZIE, K.K.
	CONVOLUTA	MACKENZIE, K.K.
	DAVYI	MACKENZIE, K.K.
	GRACILIOR	MACKENZIE, K.K.
	HARFORDII	MACKENZIE, K.K.
	INTEGRA	MACKENZIE, K.K.
	LANCIFRUCTUS	MACKENZIE, K.K.
	LEPORINELLA	MACKENZIE, K.K.
	MARIPOSANA	BAILEY, L.H.
	MULTICOSTATA	MACKENZIE, K.K.
	OLYMPICA	MACKENZIE, K.K.
	PACHYCARPA	MACKENZIE, K.K.

DATE	TAXON	AUTHOR
1916	SUB-BRACTEATA	MACKENZIE, K.K.
	TENERAEFORMIS	MACKENZIE, K.K.
1917	ALBO-NIGRA	MACKENZIE, K.K. IN RYDBERG, P.A.
	ANGUSTIOR	MACKENZIE, K.K. IN RYDBERG, P.A.
	EPAPILLOSA	MACKENZIE, K.K. IN RYDBERG, P.A.
	INCURVIFORMIS	MACKENZIE, K.K. IN RYDBERG, P.A.
	LEPTOPODA	MACKENZIE, K.K. IN RYDBERG, P.A.
	NELSONII	MACKENZIE, K.K. IN RYDBERG, P.A.
1918	BAMBUSETORUM	MERRILL, E.D.
	*PAUPERCULA	FERNALD, M.L.
1919	ARAPAHCENSIS	CLOKEY, I.W.
	SUBIMPRESSA	CLOKEY, I.W.
	*TRIBULOIDES	CLOKEY, I.W.
1920	CHIKUNGANA	BAILEY, L.H.
	CRANDALLII	GANDOGGER, M.
	KULINGANA	BAILEY, L.H.
	SUKSDORFII	KUKENTHAL, G.
	*SUKSDORFII	KUKENTHAL, G.
1921	*SCOPARIA	FERNALD, M.L.
1922	APODA	CLOKEY, I.W.
	CREBRIFLORA	WIEGAND, K.M.
	DUDLEYI	MACKENZIE, K.K.
	FLACCIFOLIA	MACKENZIE, K.K.
	FRACTA	MACKENZIE, K.K.
	HELLERI	MACKENZIE, K.K.
	MONTEREYENSIS	MACKENZIE, K.K.
	ORMOSTACHYA	WIEGAND, K.M.
	PAUCICOSTATA	MACKENZIE, K.K.
	PAYSONIS	CLOKEY, I.W.
	STENOPTERA	MACKENZIE, K.K.
	TRACYI	MACKENZIE, K.K.
	UNILATERALIS	MACKENZIE, K.K.
1923	MERRITT-FERNALDII	MACKENZIE, K.K.
	*NEBRASKENSIS	SUKSDORF, W.N.
	NEUROPHORA	MACKENZIE, K.K. IN ABRAMS, L.
	SUBORBICULATA	MACKENZIE, K.K. IN ABRAMS, L.
	VIRIDIOR	MACKENZIE, K.K. IN ABRAMS, L.
1924	*HOSTIANA	FERNALD, M.L. AND WIEGAND, K.M.
1926	CUBENSIS	KUKENTHAL, G.
	*CUBENSIS	KUKENTHAL, G.
	EKMANII	KUKENTHAL, G.
	*LIVIDA	FERNALD, M.L.
1929	*APERTA	KUKENTHAL, G.
	*APERTA	KUKENTHAL, G.
	*EKMANII	KUKENTHAL, G. AND EKMAN, E.L.
	*EURYCARPA	KUKENTHAL, G.
	*INTERRUPTA	KUKENTHAL, G.
	*OEDERI	MARIE-VICTORIN, (FRERE)
	WERDERMANNII	GROSS, R. IN WERDERMANN, E.

DATE	TAXON	AUTHOR
1930	LARICINA	MACKENZIE, K.K. EX BRIGHT, J.
	TAHITENSIS	BROWN, F.B.H.
1931	ARCTAEFORMIS	MACKENZIE, K.K.
	AUTUMNALIS	MACKENZIE, K.K.
	CLIVICOLA	FERNALD, M.L. AND WEATHERBY, C.A.
	CUNEATA	OHWI, J.
	FISSA	MACKENZIE, K.K.
	INVOLUCRATELLA	MACKENZIE, K.K.
	MOHRIANA	MACKENZIE, K.K.
	MOLESTA	MACKENZIE, K.K.
	PLATYLEPIS	MACKENZIE, K.K.
	PRAECEPTORIUM	MACKENZIE, K.K.
	PROPOSITA	MACKENZIE, K.K.
	RUTHII	MACKENZIE, K.K.
	TOWNSENDII	MACKENZIE, K.K.
	WIEGANDII	MACKENZIE, K.K.
1932	HYMENODON	OHWI, J.
	RUGATA	OHWI, J.
1933	KURILENSIS	OHWI, J.
	LANGEANA	FERNALD, M.L.
	X PSEUDO-FULVA	FERNALD, M.L.
	X TRICHINA	FERNALD, M.L.
	*VESICARIA	FERNALD, M.L.
	X XANTHINA	FERNALD, M.L.
1934	APODOSTACHYA	OHWI, J.
	HATUSIMANA	OHWI, J.
	PHILOCRENA	KRECZETOWICZ, V.I.
	*RUBRO-BRUNNEA	MERRILL, E.D.
1935	ABLATA	BAILEY, L.H.
	ACUTINELLA	MACKENZIE, K.K.
	AZTECICA	MACKENZIE, K.K.
	CAESARIENSIS	MACKENZIE, K.K.
	CONSPECTA	MACKENZIE, K.K.
	GARBERI	FERNALD, M.L.
	*GARBERI	FERNALD, M.L.
	LEIOPHYLLA	MACKENZIE, K.K.
	MISERABILIS	MACKENZIE, K.K.
	PURPURIFERA	MACKENZIE, K.K.
	SAVAIIENSIS	KUKENTHAL, G.
	STELLATA	MACKENZIE, K.K.
	TSOI	MERRILL, E.D. AND CHUN, N.K.
1936	MACKENZIANA	WEATHERBY, C.A.
	OBISPOENSIS	STACEY, J.W.
	*VULPINOIDEA	HERMANN, F.J.
1937	*CRUS-CORVI	FERNALD, M.L.
	CURATORIUM	STACEY, J.W.
	PELOCARPA	HERMANN, F.J.
	SONOMENSIS	STACEY, J.W.
1938	*ARTITECTA	HERMANN, F.J.

DATE	TAXON	AUTHOR
1938	CONSTANCEANA	STACEY, J. W.
	X DEAMII	HERMANN, F. J.
	*DIGITALIS	FERNALD, M. L.
	EASTWOODIANA	STACEY, J. W.
	EXPLORATORUM	NELMES, E.
	*LAXIFLORA	HERMANN, F. J.
	SARAWAKETENSIS	KUKENTHAL, G.
1939	*ANGUSTIOR	CLAUSEN, R. T. AND WAHL, H. A.
	DANAENSIS	STACEY, J. W.
	*INTERIOR	CLOKEY, I. W.
	KOKRINENSIS	PORSILD, A. E.
	MELOZITNENSIS	PORSILD, A. E.
	SCHNEIDERI	NELMES, E.
	SUBNIGRICANS	STACEY, J. W.
1940	BARTLETTII	O'NEILL, H. T.
1941	*DIGITALIS	FERNALD, M. L.
	DUTILLYI	O'NEILL, H. T. AND DUMAN, M.
	*INTERIOR	HERMANN, F. J.
	*PHALAROIDES	GROSS, R.
	*PIRCHINCHENSIS	GROSS, R.
	*PURPUREOVAGINATA	GROSS, R.
	RUGATA	FERNALD, M. L.
	SALTAENSIS	GROSS, R.
1942	*ABSCONDITA	FERNALD, M. L.
	X ABSCONDITIONIFORMIS	FERNALD, M. L.
	*AMPHIBOLA	FERNALD, M. L.
	BAYARDI	FERNALD, M. L.
	*CUMULATA	FERNALD, M. L.
	*DEBILIS	FERNALD, M. L.
	*INFLATA	FERNALD, M. L.
	*INTUMESCENS	FERNALD, M. L.
	JACOBI-PETERI	HULTEN, O. E. G.
	*LASIOCARPA	FERNALD, M. L.
	*PALLESCENS	FERNALD, M. L.
	*RICHARDSONII	FERNALD, M. L.
	TERRAE-NOVAE	FERNALD, M. L.
1943	*ATROFUSCA	PORSILD, A. E.
	MORRISSEYI	PORSILD, A. E.
	OBOVOIDEA	CRONQUIST, A.
1944	INTERIMUS	MAGUIRE, B.
	RACHILLIS	MAGUIRE, B.
	*VERNACULA	MAGUIRE, B.
1945	ELBERTANA	KELSO, L.
	HAGIANA	KELSO, L.
	*OXYLEPIS	UNDERWOOD, J. K.
1946	*CAMPYLOCARPA	MAGUIRE, B. AND HOLMGREN, A. H.
	*CRINITA	FERNALD, M. L.
1947	ACROPHILA	BLAKE, S. T.
	BREVIS	BLAKE, S. T.

DATE	TAXON	AUTHOR
1947	EREMOSTACHYA	BLAKE, S.T.
	HUEHUETECA	STANDLEY, P.C. AND STEYERMARK, J.A.
	LAMPROCHLAMYS	BLAKE, S.T.
	MELANOPHORA	BLAKE, S.T.
	PERILEIA	BLAKE, S.T.
	SOPERI	RAUP, H.M.
	STEYERMARKII	STANDLEY, P.C.
	UNCOMPAHGRE	KELSO, L.
	VITIENSIS	ST. JOHN, H.
1948	ROANENSIS	HERMANN, F.J.
1949	MURICULATA	HERMANN, F.J. IN MCVAUGH, R.
	SPECUICOLA	HOWELL, J.T.
1950	ATRACTODES	HERMANN, F.J.
	ERXLEBENIANA	KELSO, L.
	KAUAIENSIS	KRAUSS, R.
	PERCOSTATA	HERMANN, F.J.
	*PLUVICA	KRAUSS, R.
	QUICHENSIS	HERMANN, F.J.
	*WAHUENSIS	KRAUSS, R.
1951	CULMENICOLA	STEYERMARK, J.A.
	LARENSIS	STEYERMARK, J.A.
	RORAIMENSIS	STEYERMARK, J.A.
	TACHIRENSIS	STEYERMARK, J.A.
	TAMANA	STEYERMARK, J.A.
	TURUMIQUIRENSIS	STEYERMARK, J.A.
1952	DIVERSISTYLIS	ROACH, A.W.
	STANDLEYANA	STEYERMARK, J.A.
	TETSUOI	OHWI, J.
1953	CUCHUMATANENSIS	STANDLEY, P.C. AND STEYERMARK, J.A.
	TOJQUIANENSIS	STANDLEY, P.C. AND STEYERMARK, J.A.
	TUNIMANENSIS	STANDLEY, P.C. AND STEYERMARK, J.A.
	VENOSIVAGINATA	STANDLEY, P.C. AND STEYERMARK, J.A.
1954	LATEBRACTEATA	WATERFALL, U.T.
	TOREADORA	STEYERMARK, J.A.
	*WILLDENOWII	HERMANN, F.J.
1955	AMPLISQUAMA	HERMANN, F.J.
	TRICHOPHYLLA	NELMES, E.
	VEXANS	HERMANN, F.J.
1956	X DUMANII	LEPAGE, E.
	X EXSALINA	LEPAGE, E.
	LIMNOPHILA	HERMANN, F.J.
	X NEOFILIPENDULA	LEPAGE, E.
	X NEOPALEACEA	LEPAGE, E.
	*X SAXENII	LEPAGE, E.
1957	ATHABASCENSIS	HERMANN, F.J.
	EURYSTACHYA	HERMANN, F.J.
	INCONDITA	HERMANN, F.J.
	X NUBENS	LEPAGE, E.
	*PRATICOLA	HERMANN, F.J.

DATE	TAXON	AUTHOR
1958	JEPSONII	HOWELL, J. T.
1959	SURCULOSA	RAYMOND, M.
	TAMAKII	KOYAMA, T.
	ZIZANIAEFOLIA	RAYMOND, M.
1960	*EGGLESTONII	HERMANN, F. J.
1961	TOMPKINSI	HOWELL, J. T.
1962	X PATUENSIS	LEPAGE, E.
	*VIRIDULA	LEPAGE, E.
1963	*BIPARTITA	HERMANN, F. J.
1964	AZUAYAE	STEYERMARK, J. A.
	X NEOBIGELOWII	LEPAGE, E.
	PLECTOCARPA	HERMANN, F. J.
	X QUEBECENSIS	LEPAGE, E.
1965	*FISSA	HERMANN, F. J.
1967	CHIAPENSIS	HERMANN, F. J.
1968	*MICROPTERA	HERMANN, F. J.
1969	OBLANCEOLATA	KOYAMA, T.
1971	GUATEMALENSIS	HERMANN, F. J.

COLLECTOR INDEX

NUMBER	DATE COLLECTED	TAXON

268B	25 MAY 1897	BILTMOREANA
---	-- --- 1843	*CANESCENS
---	---	CRISTATA
---	-- AUG 1827	*FLAVA
---	---	PRAIREA
ABRAMS, L.		
2816	31 JUL 1902	ABRAMSII
ALLEN, J. A.		
21A	01 JUL 1878	*PAUPERCULA
AMANO, T.		
6358	-- MAY 1951	TETSUOI
ANDERSON, J. P.		
4871	19 AUG 1938	JACOBI-PETERI
ARSENE, G. (FRERE)		
3054	16 JUL 1909	ARSENII
1359	01 AUG 1907	CONSPECTA
ARSENE, L. (FRERE)		
---	28 JUL 1902	FULVESCENS
BAILEY, L. H.		
---	13 JUN 1917	CHIKUNGANA
---	18 JUL 1917	KULINGANA
161	01 JUN 1886	*RETROCURVA
BAKER, C. F.		
811	10 MAY 1902	AEQUA
226	-- AUG 1899	CHALCIOLEPIS
230	-- AUG 1899	ELYNOIDES
232	-- AUG 1899	*FESTIVA
232	-- AUG 1899	NUBICOLA
---	---	SAXIMONTANA
BANG, M.		
2210	---	*CLADOSTACHYA
2376	---	*JAMESONI
BANKS, J. AND SOLANDER, D. C.		
---	-- --- 1769	BANKSII
BARTLETT, H. H.		
11718A	24 FEB 1931	BARTLETTII
BEAMAN, J. H.		
3880	31 JUL 1960	GUATEMALENSIS
BEAN, R. S.; HOSAKA, E. Y. AND ST. JOHN, H.		
11228	21 DEC 1931	*WAHUENSIS
BICKNELL, E. P.		
---	11 MAY 1904	ABDITA
---	20 JUN 1908	INCOMPERTA
BIGELOW, J. M.		
---	-- --- 1853-1854	ALBIDA
---	-- --- 1853-1854	*BRONGNIARTII
1547	---	NEOMEXICANA
BILTMORE HERBARIUM		

NUMBER	DATE COLLECTED	TAXON
BILTMORE HERBARIUM		
262A	28 MAY 1897	*STIPATA
BIOLETTI, F.T.		
1	25 JUN 1893	TUMULICOLA
BOLANDER, H.N.		
6213	17 JUN 1863	ATHROSTACHYA
4741	01 MAY 1866	CALIFORNICA
6477	-- --- 1866	CINNAMOMEA
6477	-- --- 1866	DEBILIFORMIS
50	---	FETA
3822	-- APR 1864	GRACILIOR
4700	-- --- 1866	GYNODYNAMA
5074	---	HAYDENIANA
4740	-- --- 1866	LUZULINA
4701	-- --- 1866	MENDOCINENSIS
2299	-- --- 1860-1867	NUDATA
6198	-- JUL 1866	PAUCICOSTATA
4746	-- --- 1866	PHYLLOMANICA
5046	-- --- 1866	QUADRIFIDA
5046	-- --- 1866	*QUADRIFIDA
4702	-- --- 1866	SALINAEFORMIS
---	-- --- 1860 CA.	SUB-BRACTEATA
5086	-- --- 1866	WHITNEYI
6198	-- --- 1866	WHITNEYI
BOOTT, W.		
---	26 JUL 1865	*SCOPARIA
BOURGEAU, E.		
---	-- --- 1857-1859	*LONGIROSTRIS
BRAINERD, E.		
121	19 JUL 1897	BRAINERDII
160	18 JUL 1897	*ECHINATA
111	11 JUL 1897	*FILIFOLIA
---	19 JUL 1898	*INTUMESCENS
BRASS, L.J.		
9515	-- AUG 1938	ACROPHILA
4418	-- MAY-JUL 1933	BREVIS
10255	-- OCT 1938	EREMOSTACHYA
5323	-- SEP-NOV 1933	LAMPROCHLAMYS
9583	-- AUG 1938	PERILEIA
BRASS, L.J. AND MEYER-DREES, E.		
9828	-- SEP 1938	MELANOPHORA
BREEDLOVE, D.E.		
6714	30 JUL 1964	CHIAPENSIS
BREWER, W.H.		
1650	17 JUN 1863	ATHROSTACHYA
1422	-- --- 1863	BREWERI
1977	31 JUL 1863	PACHYCARPA
1636	-- --- 1863	SARTWELLIANA
1969	31 JUL 1863	*SCOPARIA
1969	31 JUL 1863	SPECIFICA

NUMBER	DATE COLLECTED	TAXON
BREWER, W. H. 1778	04 JUL 1863	WHITNEYI
BRIGHT, J. ---	18 MAY 1923	PURPURIFERA
BRITTON, N. L. ---	06 JUL 1895	*XANTHOCARPA
BROWN, D. M. 255	02 AUG 1936	ROANENSIS
BUCKLEY, S. B. --- --- --- --- ---	--- --- --- --- ---	AUSTRO-CAROLINIANA BUCKLEYI CAROLINIANA MISERA STYLOFLEXA
BURCHELL, W. J. 1911	---	BURCHELLIANA
BURT-DAVY, J. 3266	25-30 JUN 1897	DAVYI
BUSH, B. F. 1718 1718 2514 1043 7020 993	25 MAY 1902 25 MAY 1902 30 APR 1905 18 MAY 1895 02 JUN 1913 22 MAY 1895	AGGLOMERATA AGGREGATA BUSHII FISSA LUNELLIANA OKLAHOMENSIS
CANBY, W. M. 350	03 AUG 1883	MONTANENSIS
CAREY, J. --- --- ---	-- MAY 1832 --- ---	CAREYANA PLATYPHYLLA SYCHNOCEPHALA
CARY, M. 613	11 JUL 1910	ALBO-NIGRA
CHAMISSE, L. A. --- --- ---	--- --- ---	CIRCINNATA NIGRICANS PACHYSTACHYA
CHAPMAN, A. W. --- 113 --- --- --- ---	--- --- -- --- 1842 --- --- ---	BALTZELLII CHAPMANI *DIGITALIS MAGNIFOLIA *STELLULATA *STIPATA
CHASE, A. 8283	17 JAN 1925	*PURPUREOVAGINATA
CHEESEMAN, T. F. --- 83 ---	-- JAN 1883 -- JAN 1882 -- JAN 1883	*COMANS DEVIA PETRIEI

NUMBER	DATE COLLECTED	TAXON
CHRISTOPHERSEN, E. 800	24 SEP 1929	SAVAILIENSIS
CHUN, N. K. AND TSO, C. L. 43680	-- --- 1932-1933	TSOI
CLAUSEN, R. T. AND WAHL, H. A. 2532	06 JUN 1937	*ANGUSTIOR
CLEMENS, J. AND CLEMENS, M. S. 34297	28 JUL 1933	EXPLORATORUM
5546	-- MAR 1937	SARAWAKETENSIS
CLEMENTS, F. ---	-- --- 1900	EBENEA
CLOKEY, I. W. 3227	29 JUL 1918	ARAPAHOENSIS
7468	19 JUN 1937	*INTERIOR
2338	06 AUG 1915	SUBIMPRESSA
2364	07 AUG 1915	*TRIBULOIDES
COLLINS, J. F. AND FERNALD, M. L. ---	03-17 AUG 1905	*GARBERI
COLLINS, J. F.; FERNALD, M. L. AND PEASE, A. S. ---	05-08 AUG 1904	*FLAVA
COLLINS, Z. ---	---	BARRATTII
COOLEY, D. 74	---	*ALOPECOIDEA
---	---	COOLEYI
COVILLE, F. V. 1455	11 SEP 1902	BRACHYPODA
1457	11 SEP 1902	CAMPLOYOCARPA
1362	03 SEP 1902	PACHYSTOMA
CRAWE, I. B. AND WOOD, W. A. ---	---	WOODII
CRAWE, J. B. ---	---	*OLIGOCARPA
CRONQUIST, A. 2872	03 JUL 1941	OBOVOIDEA
CROOM, H. B. ---	-- --- 1834	ALATA
CURTIS, M. A. ---	-- JUL 1841	AESTIVALIS
CURTISS, A. H. 3267	-- SEP 1882	CREBRIFLORA
6761	15 APR 1901	MOHRIANA
CUSICK, W. C. 1331	-- JUL 1886	CUSICKII
2487	28 AUG 1900	GYMNOCLADA
2849	30 JUN 1902	SCABRIUSCULA
1331	-- JUL 1886	*TERETIUSCULA
DAVIS, E. ---	---	HALSEYANA

NUMBER	DATE COLLECTED	TAXON
DAVIS, E.		
---	-- --- 1823	HITCHCOCKIANA
---	---	SICCATA
DEAM, C.C.		
54764	05 MAY 1934	*ARTITECTA
10927	05 JUN 1912	LARICINA
6458	25 MAY 1910	*LAXIFLORA
61177	19 MAR 1941	VEXANS
DELAVAY, R.P.		
4829	15 JUL 1889	PTEROLEPTA
DEWEY, C.		
---	---	COLLECTA
---	---	MIRABILIS
---	-- --- 1822	NOVAE-ANGLIAE
---	---	SCHWEINITZII
---	20 JUN ----	TENERA
---	---	TRISPERMA
---	---	*UMBELLATA
10	18 JUN 1860	VALLICOLA
DOS, L.		
---	---	NIGRO-MARGINATA
DRUMMOND, T.		
437	---	AMPHIBOLA
431	-- --- 1832	AUROLENSIS
432	-- --- 1832	CRUS-CORVI
---	---	FRANKLINII
256	---	HEPBURNII
420	-- --- 1832	MACROKOLEA
---	---	PETASATA
---	---	PETRICOSA
---	---	PICTA
424	-- --- 1832	PTYCHOCARPA
---	---	RETROFLEXA
---	---	TRIANGULARIS
DUMAN, M.		
1506	08 AUG 1938	DUTILLYI
DUTILLY, A. AND LEPAGE, E.		
41,305A	12 AUG 1963	X NEOBIGELOWII
39329	19 AUG 1961	X PATUENSIS
41,305	12 AUG 1963	X QUEBECENSIS
39274	16 AUG 1961	*VIRIDULA
DUTILLY, A.; LEPAGE, E. AND DUMAN, M.		
32793	29 AUG 1954	X EXSALINA
32975	03 SEP 1954	X NEOPALEACEA
32357	14 AUG 1954	*X SAXENII
EASTWOOD, A.		
725A	16 JUL 1914	LEIOPHYLLA
EASTWOOD, A. AND HOWELL, J.T.		
1101	23 JUN 1933	CURATORIUM
2271	07 MAY 1936	OBISPOENSIS

NUMBER	DATE COLLECTED	TAXON
EGGERT, H. ---	08 AUG 1893	EGGERTII
EGGLESTON, W.W. 6181 6584 13567 6605 3329	22 AUG 1910 18 APR-25 MAY 1911 19-20 AUG 1916 18 APR-25 MAY 1911 30 JUL-01 AUG 1916	EGGLESTONII GEOPHILA MISERABILIS PITYOPHILA VIRIDIOR
EKMAN, E.L. 14506 --- H1453 H10662	21 JUL 1922 08 AUG 1925 12 AUG 1924 14 SEP 1928	CUBENSIS *CUBENSIS EKMANII *EKMANII
ELMER, A.D.E. 3132 8444 881 2700 13146 6983	-- JUN 1901 -- MAR 1907 -- JUN 1897 -- JUN 1900 -- MAY 1911 -- NOV 1904	DUDLEYI ELMERI *LENTICULARIS OLYMPICA PALAWANENSIS RHYNCHACHAENIUM
ENGELMANN, G. ---	-- --- 1874	ENGELMANNI
FARGES, R.P. ---	---	FARGESII
FAURIE, U. 919	28 JUN 1901	MICRANTHA
FAXON, E. AND FAXON, C.E. --- --- ---	23 JUN 1888 06 JUL 1878 27 MAY 1896	AENEA CRAWFORDII ORMOSTACHYA
FENDLER, A. 878	-- --- 1847	FENDLERIANA
FERNALD, M.L. 264 --- --- 146 --- --- --- 1464	04 JUL 1894 28 JUN 1904 06 JUL 1904 06 JUL 1893 03 JUL 1897 05 JUN 1896 30 JUN 1891 08 JUL 1909	*CRINITA *GLAREOSA *INTERIOR *LAXIFLORA MERRITT-FERNALDII *MIRABILIS ORONENSIS *SCOPARIA
FERNALD, M.L. AND BISSELL, C.H. 20311	16 AUG 1920	*CUMULATA
FERNALD, M.L. AND LONG, B. 12012 12969 8143 12016 11791	08 JUN 1940 13 JUN 1941 08 JUN 1938 13 JUN 1940 08 MAY 1940	*ABSCONDIRA X ABSCONDIRIFORMIS *CRINITA *DEBILIS *DIGITALIS

NUMBER	DATE COLLECTED	TAXON
FERNALD, M.L. AND LONG, B.		
7767	08 APR 1938	*DIGITALIS
11787	07 MAY 1940	RUGATA
20296	14 JUL 1920	*SCOPARIA
1455	27 AUG 1929	X XANTHINA
FERNALD, M.L. AND WIEGAND, K.M.		
2897	16 AUG 1910	*HORNSCHUCHIANA
2897	16 AUG 1910	*HOSTIANA
4918	12-13 JUL 1911	*PALLESCENS
4258	16 AUG 1910	X PSEUDO-FULVA
4796	28 AUG 1911	*SCOPARIA
2776	21 JUL 1910	WIEGANDII
FERNALD, M.L.; LONG, B. AND FOGG-JR., J.M.		
1374	20 JUL 1929	LANGAANA
1449	19 AUG 1929	X NEOFILIPENDULA
1474	31 JUL 1929	*VESICARIA
FERNALD, M.L.; LONG, B. AND SMART, R.F.		
5677	22 JUN 1936	BAYARDI
5677	22-23 JUN 1936	*CRUS-CORVI
FERNALD, M.L.; WEATHERBY, C.A. AND STEBBINS, G.L.		
2411	05 JUL 1931	CLIVICOLA
FERNALD, M.L.; WIEGAND, K.M. AND LONG, B.		
27673	20 JUL 1925	*LIVIDA
FERNALD, M.L.; WIEGAND, K.M.; LONG, B.; GILBERT-JR., F.A. AND HOTCHKISS, N.		
27657	31 JUL 1925	TERRAE-NOVAE
FORD, C.		
---	-- --- 1883?	SCAPOSA
FOWLER, J.		
---	-- --- 1872	*ADUSTA
---	-- --- 1871	*FOENEA
---	---	*MILIARIS
---	-- --- 1872	PROJECTA
---	-- JUL 1870	*STRAMINEA
FRANK, J.C.		
55	-- --- 1835	FLACCIDULA
---	-- --- 1835	STEUDELII
FRETZ, C.D.		
---	-- --- 1884	*GRISEA
FUNSTON, F.		
139	30 JUL 1893	PHYSOCHLAENA
GARBER, A.P.		
---	09 JUN 1869	*AUREA
---	09 JUN 1869	GARBERI
GEYER, C.A.		
332	---	GEYERI
GRANT, G.B.		
---	01 MAY 1902	FLACCIFOLIA
GRIFFITH, W.		
78 (KEW 6074)	---	GRIFFITHII
96 (KEW 6094)	---	SANGUINEA

NUMBER	DATE COLLECTED	TAXON
HAENKE, T. --- ---	--- ---	ANTHOXANTHERA PRESLII
HALE, D. 97	---	IGNOTA
HALL, E. 580 606 583 605 583 --- ---	-- --- 1871 -- --- 1871 01 AUG 1871 -- --- 1871 01 AUG 1871 -- --- 1871 -- --- 1872	*DEWEYANA HALLIANA *LEPORINA OREGONENSIS PHAEOCEPHALA VICARIA *WILLDENOVII
HALL, E. AND HARBOUR, J. P. 591 617 591 587	-- --- 1862 -- --- 1862 -- --- 1862 -- --- 1862	*BONPLANDII HALLII ILLOTA VIOLACEA
HALL, H. M. 2483 9781	-- JUL-AUG 1901 25 JUL 1914	JACINTOENSIS TENERAEFORMIS
HALL, H. M. AND BABCOCK, H. D. 5472	-- JUL 1904	LANCIFRUCTUS
HALL, H. M. AND CHANDLER, H. A. 4716	01-02 AUG 1903	LEPORINELLA
HARPER, R. M. 2109 2159	09 APR 1904 26 APR 1904	HARPERI SMALLIANA
HARTMAN, C. V. 620	12 APR 1891	CHIHUAHUAENSIS
HASSE, H. E. --- ---	-- JUL 1894 01 MAY 1886	HASSEI *ROSEA
HAY, G. U. 84	24 JUL 1900	*CANESCENTS
HAYDEN, F. V. --- 580 21 --- --- ---	-- --- 1853 --- -- --- 1853-1854 --- --- --- 20 JUN 1860	*ARISTATA *DOUGLASII HAYDENII LAEVI-CONICA MEEKII NEBRASKENSIS RAYNOLDSII
HELLER, A. A. 10820 9429 9975 9841 5797	07 JUN 1913 11 AUG 1908 23 JUL 1910 16 JUL 1909 01 JUL 1902	ABRUPTA FISSURICOLA HELLERI INTEGRA LACUNARUM

NUMBER	DATE COLLECTED	TAXON
HELLER, A. A.		
10052	20 MAY 1910	LEPTOPODA
7187	17 AUG 1903	*LUZULAEFOLIA
9067	21 JUL 1908	MICROPTERA
7187	17 AUG 1903	PSEUDOJAPONICA
HENDERSON, L. F.		
13	-- --- 1883	ACUTINELLA
5583	25 JUL 1925	EASTWOODIANA
---	-- JUL 1884	INOPS
1482	31 JUL 1886-20 AUG 1887	PANSA
HENRY, A.		
7860	-- --- 1885-1888	ICHANGENSIS
5467	---	LANCIFOLIA
4266	---	*LONGICRURIS
10839	---	PRAINII
HENRY, J. K.		
9152	04 JUN 1915	ARCTAEFORMIS
HERMANN, F. J.		
13498	28 AUG 1956	ATHABASCENSIS
17059	15 AUG 1961	*BIPARTITA
6147	05 JUL 1934	X DEAMII
13529	28 AUG 1956	EURYSTACHYA
13347	15 AUG 1956	INCONDITA
7985	13 JUL 1936	*INTERIOR
12252	21 AUG 1955	LIMNOPHILA
5983	15 AUG 1933	PELOCARPA
18120	21 AUG 1962	PLECTOCARPA
13453	26 AUG 1956	*PRATICOLA
6408	14 AUG 1934	*VULPINOIDEA
HOHENACKER, R. F.		
943	-- --- 1851	MERCARENSIS
HOLLISTER, N.		
14	05 AUG 1911	ATROSQUAMA
HOSAKA, E. Y.		
594	04 JUL 1932	*PLUVICA
HOUGHTON, D.		
---	13 JUL 1832	HOUGHTONIANA
HOWE, E. C.		
---	30 MAY 1887	ROSAEOIDES
HOWELL, J. T.		
14546	11 AUG 1938	DANAENSIS
24609	23 JUN 1948	SPECUICOLA
14519	11 AUG 1938	SUBNIGRICANS
35333	06 JUN 1960	TOMPKINSI
HOWELL, J. T. AND STACEY, J. W.		
13042	06 JUN 1937	SONOMENSIS
HOWELL, T. J.		
---	-- MAY 1880	ACCEDENS
935	09 MAY 1885	ACUTINA
2994	-- MAY 1886	BREVICAULIS

NUMBER	DATE COLLECTED	TAXON
HOWELL, T. J.		
937	27 MAY 1885	*MARCIDA
---	-- MAY 1880	SPRETA
---	-- MAY 1880	*STYLOSA
INGALLS, T.		
---	---	TURGESSENS
JAMES, EDWIN		
---	---	JAMESII
JEPSON, W. L.		
4477	20 JUL 1911	JEPSONII
4476	20 JUL 1911	MARIPOSANA
JOHNSON, W. M.		
594	14 AUG 1967	*MICROPTERA
JOHNSTON, I. M.		
1505	31 JUL 1917	STENOPTERA
JONES, M. E.		
---	12 JUL 1899	ABORIGINUM
834	28 AUG 1878	CRANDALLII
---	08 JUL 1909	ELRODI
5345	01 JUN 1874	EPAPILLOSA
---	22 JUL 1881	JONESII
KELLOGG, A.		
---	03 AUG ----	HETERONEURA
---	---	KELLOGGII
---	10 JUL 1870	NERVINA
---	---	SUBFUSCA
KELLOGG, A. AND HARFORD, W. G. W.		
1073	-- --- 1868-1869	*FESTIVA
1073	-- --- 1868-1869	HARFORDII
1069	-- --- 1868-1869	*HOODII
1069	-- --- 1868-1869	*HOODII
KELSO, L.		
4967	01 AUG 1945	ELBERTANA
6362	24 JUL 1948	ERXLEBENIANA
6058	03 JUL 1947	UNCOMPAGRE
KELSO, L. AND KELSO, E. H.		
525	08 AUG 1936	HAGIANA
KENNEDY, G. G.		
---	11 JUN 1899	*VESTITA
KINASHI, N.		
---	-- JUL 1909	CUNEATA
KOYAMA, T.		
---	23 NOV 1958	TAMAKII
LEAVENWORTH, M. C.		
---	-- --- 1846	FLACCOSPERMA
---	-- --- 1845	LEAVENWORTHII
LEAVENWORTH, M. C. AND HALE, D.		
683	---	HALEI
LECHLER, W.		
1136	-- OCT 1852	INCISO-DENTATA

NUMBER	DATE COLLECTED	TAXON
LEIBERG, J. B.		
335	26 JUN 1894	PHAEOLEPIS
125	10 JUL 1895	PRIONPHYLLA
2558	10 JUL 1896	VAGANS
LEMMON, J. G.		
---	-- --- 1875	LEMMONI
2	21 JUN 1882	ULTRA
LEPAGE, E.		
32078	30 JUL 1954	X DUMANII
33131	27 JUL 1955	X NUBENS
LIPSKY, V. I.		
2732	19 JUL 1899	PHILOCRENA
LITVINOV, D. I.		
153	-- --- 1897	*STENOPHYLLA
LONG, B.		
F23212	15 JUN 1920	CAESARIENSIS
LYALL, DAVID		
---	-- --- 1861	*ACUTA
MACBRIDE, J. F. AND PAYSON, E. B.		
3778	13 AUG 1916	PROPOSITA
MACDANIELS, L. H.		
1542	15 MAY 1927	TAHITENSIS
MACKENZIE, K. K.		
2676	23 JUN 1907	AESTIVALIFORMIS
2088	10 JUN 1906	CONVOLUTA
4645	26 JUN 1910	CRYPTOLEPIS
---	30 MAY 1897	MOLESTA
167	-- AUG 1901	PERGLOBOSA
9871	-- MAY 1911	RUGOSPERMA
MACOUN, J. M.		
33728	12 JUL 1901	*SCIRPOIDEA
MACOUN, JOHN		
13401	26 JUL 1887	ABLATA
52	14 JUN 1879	ASSINIBOINENSIS
6	01 AUG 1882	*CRAWFORDII
1665	12 AUG 1872	ELEOCHARIS
---	31 JUL 1891	INCURVIFORMIS
53877	14 AUG 1902	MICROCHAETA
22	04 JUL 1899	*MIRABILIS
---	31 MAY 1887	PIPERI
---	31 MAY 1887	*PRATENSIS
26624	24 JUN 1901	*STRAMINEA
---	04 JUL 1879	XERANTICA
MAGUIRE, B.		
16098	05 AUG 1938	INTERIMUS
MAGUIRE, B. AND HOLMGREN, A. H.		
21947	16 JUL 1943	*CAMPYLOCARPA
MAGUIRE, B. AND MAGUIRE, R. R.		
14668	16 AUG 1936	RACHILLIS

NUMBER	DATE COLLECTED	TAXON
MAGUIRE, B.; HOBSON, D.A. AND MAGUIRE, R.R. 14013	16 JUL 1936	*VERNACULA
MANDON, G. 1429	---	MANDONIANA
MARIE-VICTORIN, (FRERE) 4021	-- JUN 1917	*PAUPERCULA
MARIE-VICTORIN, (FRERE) AND ROLLAND-GERMAIN, (FRERE) 25767	20 JUL 1926	*INFLATA
MCCALLA, W.C. 2348	28 JUL 1899	SCIRPIFORMIS
MEAD, S.B. ---	---	ILLINOENSIS
---	---	MEADII
---	---	*RICHARDSONII
MERRILL, E.D. 10985	12 AUG 1917	BAMBUSETORUM
6505	-- MAY 1909	*BRUNNEA
6623	-- MAY 1909	MERRILLII
543	-- APR 1910	PYCNOTHYSOS
4730	-- OCT-NOV 1905	SUBTRANSVERSA
MERTENS, C.H. ---	---	LEIOCARPA
MOHR, C. ---	26 APR 1897	*STIPATA
MOORE, J.A. AND STEYERMARK, J.A. 3625	25 JUL 1931	MURICULATA
MULLER, C.H. 3520	27 SEP 1939	PERCOSTATA
MULLER, C.H. AND MULLER, M.T. 892	28 JUN 1934	MACKENZIANA
MUTIS, J.C. KILLIP NO. 5715	-- --- 1760-1808	*PIRCHINCHENSIS
NELSON, A. 7124	11 JUN 1900	BREVISQUAMA
3275	02 JUL 1897	FESTIVELLA
7316	29 JUN 1900	SIMULATA
NELSON, A. AND MACBRIDE, J.F. 1533	01 AUG 1911	APODA
NELSON, A. AND NELSON, E. 5264	30 AUG 1898	NELSONII
NUTTALL, T. 17	---	NUTTALLII
OHWI, J. 4182	-- JUL 1933	APODOSTACHYA
329	-- MAR 1933	HATUSIMANA
813	11 AUG 1931	KURILENSIS
29	04 MAY 1931	RUGATA
OLNEY, S.T. ---	01 JUL 1867	HORMATHODES

NUMBER	DATE COLLECTED	TAXON
PAINE, J. A. ---	---	*VAGINATA
PALMER, E. 546	-- JUN 1890	*NUDATA
PARISH, S. B. 2485	03 JUL 1892	AUSTROMONTANA
3609	-- JUN 1895	MULTICOSTATA
4144	04-13 APR 1896	VITREA
PARRY, C. C. ---	-- --- 1850	BARBARAE
PARRY, C. C. AND LEMMON, J. G. 396	-- --- 1876	ALMA
PAYSON, E. B. AND PAYSON, L. B. 2224	06 AUG 1920	PAYSONIS
PEASE, A. S. AND LONG, B. 20519	09 JUL 1920	*LASIOCARPA
PECK, C. H. ---	-- JUN 1894	*ROSEA
5	-- JUN 1893	*ROSEA
---	-- JUN 1894	*STIPATA
---	-- JUN 1892	*TORTA
PECK, M. E. 13	13 AUG 1917	PRAECEPTORIUM
PETELOT, P. A. 5325	-- JUL 1930	TRICHOPHYLLA
PETRIE, D. ---	---	KALOIDES
---	-- JAN 1880	LONGICULMIS
PITTIER, H. AND TONDUZ, A. 3376	19 JAN 1891	DURANDII
3381	19 JAN 1891	*LEMANNIANA
PORSILD, A. E. 173	26 AUG 1937	MORRISSEYI
PORSILD, A. E. AND PORSILD, R. T. 5120	02 AUG 1928	*ATROFUSCA
711	23 JUN-05 JUL 1926	KOKRINENSIS
713	23 JUN-05 JUL 1926	MELOZITNENSIS
PORTER, T. C. ---	---	*DEBILIS
---	26-29 JUN 1871	HALLII
---	28 AUG 1871	PORTERI
PREISS, L. 1825	---	PREISSII
1861	-- JUL 1839	PREISSII
PRINGLE, C. G. 4275	03 OCT 1892	AUTUMNALIS
4839	19 AUG 1894	AZTECICA
10039	26 AUG 1905	CILIARIS
4838	25 AUG 1894	FELIPENSIS

NUMBER	DATE COLLECTED	TAXON
PRINGLE, C.G.		
---	23 AUG 1881	FRACTA
4839	19 AUG 1894	FUSCOTINCTA
3126	08 JUL 1890	INVOLUCRATELLA
4840	27 AUG 1894	MACROSPERMA
4842	29 AUG 1894	OAXACANA
8863	02 JUN 1904	PERLONGA
2630	05 JUN 1889	PERSTRICTA
4685	08 JUN 1894	*PINETORUM
3801	04 AUG 1891	PRINGLEI
---	19 AUG 1881	*SCIRPOIDEA
7452	24 JUN 1897	SEATONIANA
PYRON, J.H. AND MCVAUGH, R.		
2951	15 MAY 1938	AMPLISQUAMA
RAMOS, M.		
BUR. SCI. 1434	-- AUG 1906	RAMOSII
RAUP, H.M. AND SOPER, J.H.		
9534	18 JUL 1939	SOPERI
RAY, J.D.; WOOD, C.E.; SMITH, A.C. AND EATON, R.J.		
10750	26 APR 1961	*FISSA
RICH, W.P.		
---	05 JUN 1894	*TENERA
RICH, WILLIAM		
WILKES EXPED. 1241	-- --- 1838-1842	LACINIATA
RICHARDSON, J.		
---	---	ARCTICA
417	---	BACKANA
---	---	BACKII
---	---	DURIFOLIA
---	---	FESTIVA
---	---	HOOKERANA
---	---	PARRYANA
---	---	PODOCARPA
---	---	RICHARDSONII
ROACH, A.W.		
202	10 JUN 1949	DIVERSISTYLIS
ROCK, J.F.		
9017	-- OCT 1909	KAUAIENSIS
ROSE, J.N.		
2357	16 AUG 1897	MADRENSIS
ROSE, J.N.; PAINTER, J.H. AND ROSE, J.S.		
9019	-- --- 1905	STELLATA
ROUSSEAU, J.		
24989	27 JUL 1926	*OEDERI
RUSBY, H.H.		
859	-- --- 1883	RUSBYI
RUTH, A.		
360	12 APR 1913	BULBOSTYLIS
458	24 APR 1914	ONUSTA
---	-- JUL 1900	RUTHII

NUMBER	DATE COLLECTED	TAXON
RYDBERG, P.A. 2339	07 AUG 1895	IDAHOA
SANDBERG, J.H. 933	20 AUG 1892	*HINDSII
SANDBERG, J.H. AND LEIBERG, J.B. 194	09 JUN 1893	*NEBRASKENSIS
773	18 AUG 1893	NEUROPHORA
SARTWELL, H.P. ---	---	ALOPECOIDEA
56	---	AQUATILIS
56	---	*AQUATILIS
---	---	*CEPHALOPHORA
108	-- --- 1848	COMMUNIS
78	---	*CRINITA
---	---	FORMOSA
36	---	INTERIOR
12	---	SARTWELLII
72	---	SCABRIOR
35	---	*STERILIS
138	---	*TENTACULATA
SAVATIER, L. 1414	-- --- 1866-1874	MACROGLOSSA
1404	-- --- 1866-1874	*NUTANS
2059	-- --- 1866-1874	PLANATA
1413	-- --- 1866-1874	PODOGYNA
SCHAFFNER, J.G. 221	-- --- 1877	FUSCOLUTEA
546	-- --- 1877	POTOSINA
546	-- --- 1877	SCHAFFNERI
SCHNEIDER, C. 2738	06 AUG 1914	SCHNEIDERI
SCHNEIDER, R.A. 954	25 JUL 1938	*EGGLESTONII
SCHWEINITZ, L.D. ---	---	COSTATA
---	---	GRACILLIMA
SCOTT, (MISS) ---	-- --- 1880	PRAEGRACILIS
SCOULER, J. ---	---	APERTA
---	---	COLUMBIANA
296	---	SCOULERI
SEKIMOTO, H. ---	15 JUL 1932	HYMENODON
SHARP, A. J. 45450	29 APR 1945	ATRACTODES
45144	07 FEB 1945	QUICHENSIS
SHELDON, E.P. 8854	09 SEP 1897	SHELDONII

NUMBER	DATE COLLECTED	TAXON
SMITH, C. P. 1055	24 JUL 1905	MONTEREYENSIS
SMITH, J. D. AND TURCKHEIM, H. 659	-- JUN 1885	DONNELL-SMITHII
SMITH, S. J. AND DUNCAN, W. H. 4872	06 APR 1949	*WILLDENOWII
ST. JOHN, H. 18330	18 AUG 1937	VITIENSIS
ST. JOHN, H. AND FERNALD, M. L. 10801	16-17 JUL 1914	MISANDROIDES
STEELE, E. S. ---	-- --- 1896	ANGUSTIOR
---	23 MAY 1898	MEDITERRANIA
---	-- --- 1900	MESOCHOREA
STEYERMARK, J. A. 53105	15 JUN 1943	AZUAYAE
48347	07 JUL 1942	CUCHUMATANENSIS
62605	06 MAY 1945	CULMENICOLA
49055	18 JUL 1942	HUEHUETECA
55470	11 FEB 1944	LARENSIS
58870	28 SEP 1944	RORAIMENSIS
48542	14 JUL 1942	STEYERMARKII
57367	15 JUL 1944	TACHIRENSIS
57401	15 JUL 1944	TAMANA
50150	06 AUG 1942	TOJQUIANENSIS
53095	15 JUN 1943	TOREADORA
48334	07 JUL 1942	TUNIMANENSIS
62705	10 MAY 1945	TURUMIQUIRENSIS
48554	14 JUL 1942	VENOSIVAGINATA
SUKSDORF, W. N. 12347	---	*APERTA
12348	15 SEP-23 OCT 1927	*APERTA
12359	23 OCT 1927	*APERTA
6864	16 AUG 1909	CONSTANCEANA
5181	15 JUL 1905	EGREGIA
1284	26 JUN 1886	EURYPARPA
11551	21 AUG 1924	*EURYPARPA
12333	22 AUG-05 SEP 1927	*INTERRUPTA
10249	22 JUN 1919	*NEBRASKENSIS
816	02 JUN 1885	OXYCARPA
1296	13 AUG 1897	PADDOENSIS
1315	-- JUL 1883	SUBORBICULATA
7383	27 AUG 1912	SUKSDORFII
5259	21 AUG-20 SEP 1905	*SUKSDORFII
SULLIVANT, W. S. ---	---	*ALATA
---	---	CONJUNCTA
SVENSON, H. K. 10469	12 JUL 1939	*OXYLEPIS

NUMBER	DATE COLLECTED	TAXON
TAAM, Y. W. 502	1-16 APR 1938	SURCULOSA
TAK, T. W. AND CHOW, W. K. 3202	20 NOV 1926	OBLANCEOLATA
THURBER, G. 652	---	*GAYANA
---	-- JUN 1850	THURBERI
TORREY, J. ---	03 AUG 1839	HETEROSTACHYA
TOWNSEND, C. H. T. AND BARBER, C. M. 157	21 JUL 1899	TOWNSENDII
TRACY, J. P. 4547	04 JUL 1914	TRACYI
3783	21 JUL 1912	UNILATERALIS
TRACY, S. M. 17	23 MAY 1888	*STRAMINEA
TSAI, H. T. 62809	-- --- 1934	ZIZANIAEFOLIA
TSUI, T. M. 74	-- MAR-APR 1932	*RUBRO-BRUNNEA
TUCKERMAN, E. ---	---	ARGYRANTHA
---	-- JUN 1864	GLAUCODEA
---	---	*SCOPARIA
---	----	*SCOPARIA
UNDERWOOD, L. M. 158	29 JAN 1903	UNDERWOODII
VAHL, J. ---	---	PRATENSIS
VASEY, G. ---	---	*HIRSUTA
VENTURI, S. 6491	15 FEB 1927	*PHALAROIDES
8650	-- --- 1929	SALTAENSIS
VREELAND, F. K. 1121	19 AUG 1901	HOLMIANA
WARE, R. A.; ROLLINS, S. AND KNIGHT, O. W. 5066	05 JUL 1906	*TRISPERMA
WATERFALL, U. T. 11380	19 APR 1953	LATEBRACTEATA
WATSON, S. 1231A	-- AUG 1869	*CANESCENS
1246	-- MAY 1868	WATSONI
WERDERMANN, E. 1687	-- MAR 1925	WERDERMANNII
WHEELER, C. F. ---	28 JUN 1890	*TENUIFLORA
WIEGAND, K. M. AND THOMAS, C. C. 1915	15 JUN 1914	*AMPHIBOLA

NUMBER	DATE COLLECTED	TAXON
WILKES EXPLOR. EXPED.		
---	-- --- 1838-1842	HEBETATA
---	-- --- 1838-1842	*MICROGLOCHIN
---	-- --- 1838-1842	OLIGANTHA
---	-- --- 1838-1842	WILKESII
WILLIAMS, E.F.		
---	-- AUG 1900	*VESICARIA
WILLIAMS, E.F.; CHURCHILL, J.R. AND FERNALD, M.L.		
---	16 JUL 1900	KATAHDINENSIS
WILLIAMS, E.F.; COLLINS, J.F. AND FERNALD, M.L.		
---	12-15 JUL 1905	*DEWEYANA
110	19 JUL 1902	X TRICHINA
WILLIAMS, L.O.		
13178	06 JUL 1947	STANDLEYANA
WILLIAMS, R.S.		
---	18 JUN 1899	BONANZENSIS
---	07 JUN 1893	CONCINNOIDES
---	11 AUG 1894	STANTONENSIS
---	12 JUN 1899	WILLIAMSII
---	18 JUN 1899	YUKONENSIS
WILLIAMS, T.A.		
2951	19 AUG 1897	PLATYLEPIS
WOOD, W.A.		
---	---	RETROCURVA
WOOTON, E.O.		
---	28 JUL 1900	AGROSTOIDES
WRIGHT, C.		
---	-- JUN 1855	CONFERTIFLORA
---	---	MICANS
---	-- --- 1853-1856	NANA
---	-- --- 1853-1856	PAPULOSA
---	---	PARCIFLORA
---	---	PICTA
1561	-- --- 1850	WRIGHTII
WRIGHT, S.H.		
---	---	*STRICTA
---	---	XEROCARPA

COUNTRY	STATE	TAXON
CANADA	NEWFOUNDLAND	WIEGANDII
	NEWFOUNDLAND	X XANTHINA
	NORTHWEST TERRITORIES	*ATROFUSCA
	NORTHWEST TERRITORIES	SOPERI
	NOVA SCOTIA	*CUMULATA
	NOVA SCOTIA	*LASIOCARPA
	NOVA SCOTIA	*SCOPARIA
	ONTARIO	*STRAMINEA
	QUEBEC	CLIVICOLA
	QUEBEC	*CRAWFORDII
	QUEBEC	*DEWEYANA
	QUEBEC	X DUMANII
	QUEBEC	X EXSALINA
	QUEBEC	*FLAVA
	QUEBEC	*GARBERI
	QUEBEC	*GLAREOSA
	QUEBEC	*INFLATA
	QUEBEC	X NEOBIGELOWII
	QUEBEC	X NEOPALEACEA
	QUEBEC	X NUBENS
	QUEBEC	*OEDERI
	QUEBEC	X PATUENSIS
	QUEBEC	*PAUPERCULA
	QUEBEC	X QUEBECENSIS
	QUEBEC	*X SAXENII
	QUEBEC	*VIRIDULA
	SASKATCHEWAN	ARCTICA
	SASKATCHEWAN	BACKANA
	SASKATCHEWAN	BACKII
	SASKATCHEWAN	DURIFOLIA
	SASKATCHEWAN	ELEOCHARIS
	SASKATCHEWAN	HOOKEANA
	SASKATCHEWAN	XERANTICA
	YUKON TERRITORY	BONANZENSIS
	YUKON TERRITORY	LEIOPHYLLA
	YUKON TERRITORY	MICROCHAETA
	YUKON TERRITORY	WILLIAMSII
	YUKON TERRITORY	YUKONENSIS
CHILE		INCISO-DENTATA
	LLANQUIHUE	WERDERMANNII
	MAGALLANES	*MICROGLOCHIN
	MAGALLANES	OLIGANTHA
CHINA	HUPEH	ICHANGENSIS
	HUPEH	LANCIFOLIA
	HUPEH	*LONGICRURIS
	HUPEH AND HONAN	CHIKUNGANA
	KIANGSI	KULINGANA
	KWANGTUNG	BAMBUSETORUM
	KWANGTUNG	OBLANCEOLATA

COUNTRY	STATE	TAXON
CHINA	KWANGTUNG	*RUBRO-BRUNNEA
	KWANGTUNG	SCAPOSA
	KWANGTUNG	SURCULOSA
	KWANGTUNG	TSOI
	SZECHWAN	FARGESII
	YUNNAN	PRAINII
	YUNNAN	PTEROLEPTA
	YUNNAN	SCHNEIDERI
	YUNNAN	ZIZANIAEFOLIA
COLOMBIA		*PIRCHINCHENSIS
COSTA RICA		DURANDII
CUBA	ORIENTE	*LEMANNIANA
ECUADOR	AZUAY	CUBENSIS
	AZUAY	AZUAYAE
		TOREADORA
FIJI		VITIENSIS
FRENCH POLYNESIA		TAHITENSIS
GREENLAND		PRATENSIS
GUATEMALA	ALTA VERAPAZ	DONNELL-SMITHII
	HUEHUETENANGO	CUCHUMATANENSIS
	HUEHUETENANGO	GUATEMALENSIS
	HUEHUETENANGO	HUEHUETECA
	HUEHUETENANGO	STEYERMARKII
	HUEHUETENANGO	TOJQUIANENSIS
	HUEHUETENANGO	TUNIMANENSIS
	HUEHUETENANGO	VENOSIVAGINATA
	JALAPA	STANDLEYANA
	QUICHE	QUICHENSIS
HAITI		*CUBENSIS
		*EKMANII
	QUEST	EKMANII
INDIA		MERCARENSIS
INDONESIA	WEST NEW GUINEA	ACROPHILA
	WEST NEW GUINEA	EREMOSTACHYA
	WEST NEW GUINEA	MELANOPHORA
	WEST NEW GUINEA	PERILEIA
JAMAICA		UNDERWOODII
JAPAN		HYMENODON
		MICANS
		RUGATA
	AOMORI (PREFECTURE)	CUNEATA
	HOKKAIDO (PREFECTURE)	CONFERTIFLORA
	HOKKAIDO (PREFECTURE)	NANA
	HOKKAIDO (PREFECTURE)	PAPULOSA
	HOKKAIDO (PREFECTURE)	PARCIFLORA
	HOKKAIDO (PREFECTURE)	PICTA
	KANAGAWA (PREFECTURE)	MACROGLOSSA
	KANAGAWA (PREFECTURE)	*NUTANS
	KANAGAWA (PREFECTURE)	PLANATA

COUNTRY	STATE	TAXON
JAPAN	TOKYO (PREFECTURE)	PODOGYNA
KOREA		MICRANTHA
MALAYSIA	SABAH (TERRITORY)	EXPLORATORUM
MEXICO	CHIAPAS	ATRACTODES
	CHIAPAS	CHIAPENSIS
	CHIHUAHUA	CHIHUAHUAENSIS
	CHIHUAHUA	PERCOSTATA
	CHIHUAHUA	TOWNSENDII
	DURANGO	MADRENSIS
	HIDALGO	CILIARIS
	HIDALGO	PERLONGA
	HIDALGO	SEATONIANA
	HIDALGO	STELLATA
	MEXICO	AUTUMNALIS
	MICHOACAN	ARSENII
	NUEVO LEON	*EGGLESTONII
	NUEVO LEON	MACKENZIANA
	NUEVO LEON	PERSTRICTA
	OAXACA	AZTECICA
	OAXACA	FELIPENSIS
	OAXACA	FUSCOTINCTA
	OAXACA	MACROSPERMA
	OAXACA	OAXACANA
	OAXACA	*PINETORUM
	PUEBLA	CONSPECTA
	SAN LUIS POTOSI	FUSCULUTEA
	SAN LUIS POTOSI	INVOLUCRATELLA
	SAN LUIS POTOSI	POTOSINA
	SAN LUIS POTOSI	PRINGLEI
	SAN LUIS POTOSI	SCHAFFNERI
	SONORA	*GAYANA
	SONORA	THURBERI
NEW ZEALAND	CANTERBURY (DISTRICT)	*COMANS
	CANTERBURY (DISTRICT)	PETRIEI
	NELSON (DISTRICT)	DEVIA
	OTAGO (DISTRICT)	KALOIDES
	OTAGO (DISTRICT)	LONGICULMIS
PAPUA AND NEW GUINEA	NORTH-EAST NEW GUINEA	SARAWAKETENSIS
	PAPUA (TERRITORY)	BREVIS
	PAPUA (TERRITORY)	LAMPROCHLAMYS
PERU	LIMA	HEBETATA
PHILIPPINES	BATAAN	RHYNCHACHAENIUM
	BENGUET	*BRUNNEA
	BENGUET	ELMERI
	BENGUET	MERRILLII
	BENGUET	SUBTRANSVERSA
	NEGROS OCCIDENTAL	PYCNOTHYSOS
	PALAWAN	PALAWANENSIS
	RIZAL	RAMOSII

COUNTRY	STATE	TAXON
RYUKYU ISLANDS	OKINAWA (PREFECTURE)	TAMAKII
	OKINAWA (PREFECTURE)	TETSUOI
SOUTH AFRICA		BURCHELLIANA
ST. PIERRE AND MIQUELON		FULVESCENS
SWITZERLAND	VALAIS (CANTON)	*FLAVA
TAIWAN		APODOSTACHYA
		HATUSIMANA
USA	FUKIEN	*CANESCENS
		COLUMBIANA
		FRANKLINII
		GEYERI
		JAMESII
		NUTTALLII
		PETASATA
		PETRICOSA
		*UMBELLATA
		*STIPATA
	ALABAMA	ANTHOXANTHERA
	ALASKA	CIRCINNATA
	ALASKA	JACOBI-PETERI
	ALASKA	KOKRINENSIS
	ALASKA	LEIOCARPA
	ALASKA	MELOZITNENSIS
	ALASKA	NIGRICANS
	ALASKA	PACHYSTACHYA
	ALASKA	PHYSOCHLAENA
	ALASKA	PRESLII
	ARIZONA	CURATORIUM
	ARIZONA	*NUDATA
	ARIZONA	RUSBYI
	ARIZONA	SPECUICOLA
	ARIZONA	ULTRA
	ARKANSAS	BUSHII
	ARKANSAS	*ROSEA
	BRITISH COLUMBIA	SCOULERI
	CALIFORNIA	ABRAMSII
	CALIFORNIA	ABRUPTA
	CALIFORNIA	AEQUA
	CALIFORNIA	ALBIDA
	CALIFORNIA	ALMA
	CALIFORNIA	ATHROSTACHYA
	CALIFORNIA	ATHROSTACHYA
	CALIFORNIA	AUSTROMONTANA
	CALIFORNIA	BARBARAE
	CALIFORNIA	BRAINERDII
	CALIFORNIA	BREWERI
	CALIFORNIA	*BRONGNIARTII
	CALIFORNIA	CALIFORNICA
	CALIFORNIA	CINNAMOMEA

COUNTRY	STATE	TAXON
USA	CALIFCRNIA	DANAENSIS
	CALIFORNIA	DAVYI
	CALIFORNIA	DEBILIFORMIS
	CALIFCRNIA	DUDLEYI
	CALIFORNIA	*ECHINATA
	CALIFORNIA	*FESTIVA
	CALIFCRNIA	FETA
	CALIFORNIA	*FILIFOLIA
	CALIFCRNIA	FLACCIFOLIA
	CALIFCRNIA	FRACTA
	CALIFORNIA	GRACILIOR
	CALIFCRNIA	GYNODYNAMA
	CALIFCRNIA	HARFORDII
	CALIFORNIA	HASSEI
	CALIFORNIA	HAYDENIANA
	CALIFORNIA	HETERONEURA
	CALIFCRNIA	*HOODII
	CALIFCRNIA	*HOODII
	CALIFORNIA	INTEGRA
	CALIFORNIA	JACINTOENSIS
	CALIFCRNIA	JEPSONII
	CALIFCRNIA	JONESII
	CALIFCRNIA	KELLOGGII
	CALIFCRNIA	LACINIATA
	CALIFORNIA	LACUNARUM
	CALIFORNIA	LANCIFRUCTUS
	CALIFCRNIA	LEMMONI
	CALIFCRNIA	LEPORINELLA
	CALIFORNIA	*LUZULAEFOLIA
	CALIFORNIA	LUZULINA
	CALIFORNIA	MARIPOSANA
	CALIFCRNIA	MENDOCINENSIS
	CALIFORNIA	MONTEREYENSIS
	CALIFORNIA	MULTICOSTATA
	CALIFCRNIA	NERVINA
	CALIFORNIA	NUDATA
	CALIFORNIA	OBISPOENSIS
	CALIFCRNIA	PACHYCARPA
	CALIFORNIA	PAUCICOSTATA
	CALIFCRNIA	PHYLLOMANICA
	CALIFCRNIA	PRAEGRACILIS
	CALIFORNIA	PSEUDOJAPONICA
	CALIFORNIA	QUADRIFIDA
	CALIFORNIA	*QUADRIFIDA
	CALIFORNIA	SALINAEFORMIS
	CALIFORNIA	SARTWELLIANA
	CALIFORNIA	*SCIRPOIDEA
	CALIFORNIA	*SCOPARIA
	CALIFCRNIA	SONOMENSIS

COUNTRY	STATE	TAXON
USA	CALIFORNIA	SPECIFICA
	CALIFORNIA	STENOPTERA
	CALIFCRNIA	SUB-BRACTEATA
	CALIFORNIA	SUBFUSCA
	CALIFCRNIA	SUBNIGRICANS
	CALIFCRNIA	TENERAEFORMIS
	CALIFCRNIA	TOMPKINSI
	CALIFCRNIA	TRACYI
	CALIFCRNIA	TUMULICOLA
	CALIFCRNIA	UNILATERALIS
	CALIFCRNIA	VITREA
	CALIFORNIA	WHITNEYI
	CALIFORNIA	WHITNEYI
	CALIFCRNIA	WHITNEYI
	CALIFORNIA	WILKESII
	COLORADO	ARAPAHOENSIS
	COLORADO	*BIPARTITA
	COLORADO	*BONPLANDII
	COLORADO	CHALCIOLEPIS
	COLORADO	CRANDALLII
	COLORADO	EBENEA
	COLORADO	EGGLESTONII
	COLORADO	ELBERTANA
	COLORADO	ELYNOIDES
	COLORADO	ENGELMANNI
	COLORADO	ERXLEBENIANA
	COLORADO	*FESTIVA
	COLORADO	HAGIANA
	COLORADO	HALLII
	COLORADO	HEPBURNII
	COLORADO	ILLOTA
	COLORADO	*MICROPTERA
	COLORADO	NUBICOLA
	COLORADO	PERGLOBOSA
	COLORADO	SAXIMONTANA
	COLORADO	UNCOMPANGRE
	COLORADO	VIOLACEA
	DISTRICT OF COLUMBIA	ANGUSTIOR
	DISTRICT OF COLUMBIA	MEDITERRANIA
	DISTRICT OF COLUMBIA	MESOCHOREA
	FLORIDA	BALTZELLII
	FLORIDA	CHAPMANI
	FLORIDA	CREBRIFLORA
	FLORIDA	*DIGITALIS
	FLORIDA	*FISSA
	FLORIDA	FLACCOSPERMA
	FLORIDA	MAGNIFOLIA
	FLORIDA	MOHRIANA
	FLORIDA	*STELLULATA

COUNTRY	STATE	TAXON
USA	FLORIDA	*STIPATA
	FLORIDA	VEXANS
	GEORGIA	AMPLISQUAMA
	GEORGIA	HARPERI
	GEORGIA	SMALLIANA
	GEORGIA	*WILLDENOWII
	HAWAII	KAUAIENSIS
	HAWAII	*PLUVICA
	HAWAII	*WAHUENSIS
	IDAHO	ABORIGINUM
	IDAHO	APODA
	IDAHO	HALLII
	IDAHO	*HINDSII
	IDAHO	IDAHOA
	IDAHO	OBOVOIDEA
	IDAHO	PRIONPHYLLA
	IDAHO	PROPOSITA
	IDAHO	RAYNOLDSII
	ILLINOIS	*HIRSUTA
	ILLINOIS	ILLINOENSIS
	ILLINCIS	MEADII
	ILLINOIS	*RICHARDSONII
	ILLINOIS	SUBIMPRESSA
	ILLINOIS	*TRIBULOIDES
	INDIANA	*ARTITECTA
	INDIANA	X DEAMII
	INDIANA	LARICINA
	INDIANA	*LAXIFLORA
	KANSAS	MOLESTA
	LOUISIANA	AMPHIBOLA
	LOUISIANA	AUOLENSIS
	LOUISIANA	CRUS-CORVI
	LOUISIANA	HALEI
	LOUISIANA	IGNOTA
	LOUISIANA	LEAVENWORTHII
	LOUISIANA	MACROKOLEA
	LOUISIANA	PICTA
	LOUISIANA	PTYCHOCARPA
	LOUISIANA	TURGESSENS
	MAINE	*CRINITA
	MAINE	*INTERIOR
	MAINE	KATAHDINENSIS
	MAINE	*LAXIFLORA
	MAINE	MERRITT-FERNALDII
	MAINE	ORONENSIS
	MAINE	*PAUPERCULA
	MAINE	PORTERI
	MAINE	*SCOPARIA
	MAINE	X TRICHINA

COUNTRY	STATE	TAXON
USA	MAINE	*TRISPERMA
	MAINE	*VESICARIA
	MASSACHUSETTS	ARGYRANTHA
	MASSACHUSETTS	COLLECTA
	MASSACHUSETTS	GLAUCODEA
	MASSACHUSETTS	HALSEYANA
	MASSACHUSETTS	HITCHCOCKIANA
	MASSACHUSETTS	INCOMPERTA
	MASSACHUSETTS	MIRABILIS
	MASSACHUSETTS	NOVAE-ANGLIAE
	MASSACHUSETTS	SCHWEINITZII
	MASSACHUSETTS	*SCOPARIA
	MASSACHUSETTS	*SCOPARIA
	MASSACHUSETTS	SICCATA
	MASSACHUSETTS	TENERA
	MASSACHUSETTS	*TENERA
	MASSACHUSETTS	TRISPERMA
	MASSACHUSETTS	*VESTITA
	MICHIGAN	*ALOPECOIDEA
	MICHIGAN	COOLEYI
	MICHIGAN	HETEROSTACHYA
	MICHIGAN	*INTERIOR
	MICHIGAN	PRAIREA
	MICHIGAN	*RETROCURVA
	MICHIGAN	*TENUIFLORA
	MICHIGAN	*VULPINOIDEA
	MINNESOTA	HOUGHTONIANA
	MISSISSIPPI	*STRAMINEA
	MISSOURI	AGGLOMERATA
	MISSOURI	AGGREGATA
	MISSOURI	EGGERTII
	MISSOURI	LUNELLIANA
	MONTANA	CONCINNOIDES
	MONTANA	ELRODI
	MONTANA	HOLMIANA
	MONTANA	MONTANENSIS
	MONTANA	PLECTOCARPA
	MONTANA	STANTONENSIS
	NEBRASKA	*ARISTATA
	NEBRASKA	*DOUGLASII
	NEBRASKA	LAEVI-CONICA
	NEBRASKA	MEEKII
	NEBRASKA	NEBRASKENSIS
	NEVADA	FISSURICOLA
	NEVADA	HELLERI
	NEVADA	*INTERIOR
	NEVADA	MICROPTERA
	NEVADA	WATSONI
	NEW HAMPSHIRE	AENEA

COUNTRY	STATE	TAXON
USA	NEW HAMPSHIRE	CRAWFORDII
	NEW HAMPSHIRE	*MIRABILIS
	NEW HAMPSHIRE	ORMOSTACHYA
	NEW HAMPSHIRE	*SCOPARIA
	NEW JERSEY	AESTIVALIFORMIS
	NEW JERSEY	BARRATTII
	NEW JERSEY	CAESARIENSIS
	NEW JERSEY	CONVOLUTA
	NEW JERSEY	CRISTATA
	NEW JERSEY	CRYPTOLEPIS
	NEW JERSEY	RUGOSPERMA
	NEW MEXICO	AGROSTOIDES
	NEW MEXICO	FENDLERIANA
	NEW MEXICO	GEOPHILA
	NEW MEXICO	NEOMEXICANA
	NEW MEXICO	PITYOPHILA
	NEW YORK	ABDITA
	NEW YORK	ALOPECOIDEA
	NEW YORK	*AMPHIBOLA
	NEW YORK	AQUATILIS
	NEW YORK	*AQUATILIS
	NEW YORK	CAREYANA
	NEW YORK	*CEPHALOPHORA
	NEW YORK	COMMUNIS
	NEW YORK	*CRINITA
	NEW YORK	FORMOSA
	NEW YORK	INTERIOR
	NEW YORK	*OLIGOCARPA
	NEW YORK	PLATYPHYLLA
	NEW YORK	RETROCURVA
	NEW YORK	ROSAEOIDES
	NEW YORK	*ROSEA
	NEW YORK	*ROSEA
	NEW YORK	SARTWELLII
	NEW YORK	SCABRIOR
	NEW YORK	*STERILIS
	NEW YORK	*STIPATA
	NEW YORK	*STRICTA
	NEW YORK	SYCHNOCEPHALA
	NEW YORK	*TENTACULATA
	NEW YORK	*TORTA
	NEW YORK	*VAGINATA
	NEW YORK	WOODII
	NEW YORK	*XANTHOCARPA
	NEW YORK	XEROCARPA
	NEW YORK	AESTIVALIS
	NORTH CAROLINA	ALATA
	NORTH CAROLINA	BILTMOREANA
	NORTH CAROLINA	BUCKLEYI

COUNTRY	STATE	TAXON
USA	NORTH CAROLINA	MISERA
	NORTH CAROLINA	NIGRO-MARGINATA
	NORTH CAROLINA	RUTHII
	NORTH CAROLINA	*STIPATA
	NORTH CAROLINA	STYLOFLEXA
	NORTHWEST TERRITORIES	FESTIVA
	OHIO	*ALATA
	OHIO	CONJUNCTA
	OHIO	FLACCIDULA
	OHIO	STEUDELII
	OKLAHOMA	FISSA
	OKLAHOMA	LATEBRACTEATA
	OKLAHOMA	OKLAHOMENSIS
	OREGON	ACCEDENS
	OREGON	*ACUTA
	OREGON	ACUTINA
	OREGON	ACUTINELLA
	OREGON	BRACHYPODA
	OREGON	BREVICAULIS
	OREGON	CAMPYOCARPA
	OREGON	CUSICKII
	OREGON	*DEWEYANA
	OREGON	DIVERSISTYLIS
	OREGON	EASTWOODIANA
	OREGON	GYMNOCLADA
	OREGON	HALLIANA
	OREGON	INOPS
	OREGON	*LEPORINA
	OREGON	LEPTOPODA
	OREGON	*MARCIDA
	OREGON	OREGONENSIS
	OREGON	PACHYSTOMA
	OREGON	PANSA
	OREGON	PHAEOCEPHALA
	OREGON	PHAEOLEPIS
	OREGON	SHELDONII
	OREGON	SPRETA
	OREGON	*STYLOSA
	OREGON	*TERETIUSCULA
	OREGON	VAGANS
	OREGON	VICARIA
	PENNSYLVANIA	*ANGUSTIOR
	PENNSYLVANIA	*AUREA
	PENNSYLVANIA	COSTATA
	PENNSYLVANIA	*DEBILIS
	PENNSYLVANIA	GARBERI
	PENNSYLVANIA	GRACILLIMA
	PENNSYLVANIA	*GRISEA
	RHODE ISLAND	HORMATHODES

COUNTRY	STATE	TAXON
USA	SOUTH CAROLINA	AUSTRO-CAROLINIANA
	SOUTH CAROLINA	CAROLINIANA
	SOUTH DAKOTA	HAYDENII
	TENNESSEE	*OXYLEPIS
	TENNESSEE	PURPURIFERA
	TENNESSEE	ROANENSIS
	TEXAS	BULBOSTYLIS
	TEXAS	MURICULATA
	TEXAS	ONUSTA
	TEXAS	RETROFLEXA
	TEXAS	TRIANGULARIS
	TEXAS	*WILLDENOVII
	TEXAS	WRIGHTII
	UTAH	*CAMPYLOCARPA
	UTAH	*CANESCENS
	UTAH	EPAPILLOSA
	UTAH	INTERIMUS
	UTAH	PELOCARPA
	UTAH	RACHILLIS
	UTAH	*VERNACULA
	VERMONT	*INTUMESCENS
	VIRGINIA	*ABSCONDITA
	VIRGINIA	X ABSCONDITIFORMIS
	VIRGINIA	BAYARDI
	VIRGINIA	*CRINITA
	VIRGINIA	*CRUS-CORVI
	VIRGINIA	*DEBILIS
	VIRGINIA	*DIGITALIS
	VIRGINIA	*DIGITALIS
	VIRGINIA	RUGATA
	WASHINGTON	APERTA
	WASHINGTON	*APERTA
	WASHINGTON	*APERTA
	WASHINGTON	*APERTA
	WASHINGTON	CONSTANCEANA
	WASHINGTON	EGREGIA
	WASHINGTON	EURYPARPA
	WASHINGTON	*EURYPARPA
	WASHINGTON	*INTERRUPTA
	WASHINGTON	*LENTICULARIS
	WASHINGTON	MISERABILIS
	WASHINGTON	*NEBRASKENSIS
	WASHINGTON	*NEBRASKENSIS
	WASHINGTON	NEUROPHORA
	WASHINGTON	OLYMPICA
	WASHINGTON	OXYCARPA
	WASHINGTON	PADDONENSIS
	WASHINGTON	PRAECEPTORIUM
	WASHINGTON	SCABRIUSCULA

COUNTRY	STATE	TAXON
USA	WASHINGTON	SUBORBICULATA
	WASHINGTON	SUKSDORFII
	WASHINGTON	*SUKSDORFII
	WASHINGTON	VIRIDIOR
	WYOMING	ALBO-NIGRA
	WYOMING	BREVISQUAMA
	WYOMING	FESTIVELLA
	WYOMING	LIMNOPHILA
	WYOMING	NELSONII
	WYOMING	PAYSONIS
	WYOMING	PLATYLEPIS
	WYOMING	SIMULATA
	WYOMING	VALLICOLA
USSR	RUSSIAN SFSR	KURILENSIS
	TADZHIKISTAN	PHILOCRENA
	TURKESTAN	*STENOPHYLLA
VENEZUELA	BOLIVAR	RORAIMENSIS
	LARA	LARENSIS
	SUCRE	CULMENICOLA
	SUCRE	TURUMIQUIRENSIS
	TACHIRA	TACHIRENSIS
	TACHIRA	TAMANA
VIET-NAM, NORTH WESTERN SAMOA	TONKIN	TRICHOPHYLLA
		SAVAIIENSIS

HERBARIUM INDEX

SHEET NO.	KIND OF TYPE	TAXON
A (ARNOLD ARBORETUM, CAMBRIDGE, MASSACHUSETTS)		
	ISOTYPE	ACROPHILA
	ISOTYPE	BREVIS
	ISOTYPE	EREMOSTACHYA
	ISOTYPE	LAMPROCHLAMYS
	ISOTYPE	MELANOPHORA
	ISOTYPE	MERCARENSIS
	ISOTYPE	PERILEIA
	ISOTYPE	RUBRO-BRUNNEA
	ISOTYPE	SARAWAKETENSIS
	HOLOTYPE	SURCULOSA
	ISOTYPE	TAHITENSIS
	HOLOTYPE	ZIZANIAEFOLIA
CAS (CALIFORNIA ACADEMY OF SCIENCES, SAN FRANCISCO)		
242617	ISOTYPE	ABORIGINUM
497554	ISOTYPE	ALMA
553879	ISOTYPE	ALOPECOIDEA
242962	ISOTYPE	APERTA
242960	SYNTYPE	APERTA
242961	SYNTYPE	APERTA
554019	ISOTYPE	AQUATILIS
102030	ISOTYPE	ARAPAHOENSIS
430881	ISOTYPE	BIPARTITA
383776	TYPE COLLECTION	CALIFORNICA
334353	ISOTYPE	CAMPYLOCARPA
553918	ISOTYPE	CHAPMANI
232050	ISOTYPE	CILIARIS
445943	ISOTYPE	CILIARIS
553874	TYPE FRAGMENT	CINNAMOMEA
553913	SYNTYPE	COMMUNIS
383550	SYNTYPE	CONJUNCTA
242987	HOLOTYPE	CONSTANCEANA
553883	TYPE COLLECTION	CRINITA
204973	SYNTYPE	CURATORIUM
204974	SYNTYPE	CURATORIUM
259875	HOLOTYPE	DANAENSIS
259874	ISOTYPE	DANAENSIS
336835	ISOTYPE	DIGITALIS
372834	ISOTYPE	DIVERSISTYLIS
351155	ISOTYPE	DURANDII
130386	HOLOTYPE	EASTWOODIANA
242957	SYNTYPE	EURYCARPA
246772	TYPE COLLECTION	EURYCARPA
401490	ISOTYPE	EURYSTACHYA
234898	ISOTYPE	FISSURICOLA
102307	ISOTYPE	FORMOSA
		VAR ELINEOLATA
		VAR SPARSI-SPICATA
		VAR UMBROSA
		VAR VIRIDANS
		VAR VIRIDANS
		VAR SUBSTRICTA
		VAR AUSTROMONTANA
		SSP AFFINIS
		VAR MINOR
		VAR ASYMMETRICA
		VAR ATTENUATA

SHEET NO. KIND OF TYPE TAXON

CAS (CALIFORNIA ACADEMY OF SCIENCES, SAN FRANCISCO)

383156	ISOTYPE	FORMOSA	
103033	ISOTYPE	GRACILIOR	
383986	ISOTYPE	GYNODYNAMA	
328017	ISOTYPE	HAGIANA	
103098	SYNTYPE	HOODII	VAR NERVOSA
103098	SYNTYPE	HOODII	VAR NEUROCARPA
553902	TYPE COLLECTION	IGNOTA	
404489	ISOTYPE	INCONDITA	
203910	ISOTYPE	INOPS	
348506	ISOTYPE	INTERIMUS	
553999	ISOTYPE	INTERIOR	
272528	ISOTYPE	INTERIOR	VAR CHARLESTONENSIS
272529	ISOTYPE	INTERIOR	VAR CHARLESTONENSIS
242959	TYPE COLLECTION	INTERRUPTA	VAR DISTENTA
477664	ISOTYPE	JACOBI-PETERI	
384438	ISOTYPE	LATEBRACTEATA	
102481	ISOTYPE	LEIOPHYLLA	
264341	SYNTYPE	LEMANNIANA	VAR SIMPLEX
186427	ISOTYPE	LEPTOPODA	
136	ISOTYPE	LUZULAEFOLIA	VAR STROBILANTHA
231121	ISOTYPE	LUZULAEFOLIA	VAR STROBILANTHA
384084	ISOTYPE	LUZULINA	
264346	ISOTYPE	MACKENZIANA	
553885	ISOTYPE	MEADII	
553875	TYPE FRAGMENT	MENDOCINENSIS	
234896	ISOTYPE	MICROPTERA	
194659	ISOTYPE	MURICULATA	
235733	HOLOTYPE	OBISPOENSIS	
237824	ISOTYPE	OBISPOENSIS	
237908	ISOTYPE	OBISPOENSIS	
351152	ISOTYPE	ONUSTA	
239452	ISOTYPE	PELOCARPA	
369422	ISOTYPE	PERCOSTATA	
155657	ISOTYPE	PERLONGA	
193005	ISOTYPE	PERLONGA	
383889	ISOTYPE	PITYOPHILA	
416360	ISOTYPE	PLECTOCARPA	
105004	TYPE COLLECTION	PRATENSIS	
404488	ISOTYPE	PRATICOLA	VAR SUBCORIACEA
102638	ISOTYPE	PROPOSITA	
325253	ISOTYPE	RACHILLIS	
336836	ISOTYPE	RUGATA	
383801	TYPE COLLECTION	SALINAEFORMIS	
383407	TYPE COLLECTION	SARTWELLII	
553975	TYPE COLLECTION	SARTWELLII	
553877	ISOTYPE	SCABRIOR	
445940	ISOTYPE	SEATONIANA	
246086	HOLOTYPE	SONOMENSIS	

SHEET NO.	KIND OF TYPE	TAXON	
CAS (CALIFORNIA ACADEMY OF SCIENCES, SAN FRANCISCO)			
246636	ISOTYPE	SONOMENSIS	
232289	SYNTYPE	SPECIFICA	
342553	HOLOTYPE	SPECUICOLA	
342552	ISOTYPE	SPECUICOLA	
162423	ISOTYPE	SUBIMPRESSA	
259816	HOLOTYPE	SUBNIGRICANS	
152864	ISOTYPE	SUKSDORFII	
243333	ISOTYPE	SUKSDORFII	
553943	TYPE COLLECTION	TENTACULATA	VAR ALTIOR
428953	HOLOTYPE	TOMPKINSI	
429306	ISOTYPE	TOMPKINSI	
351161	ISOTYPE	TOWNSENDII	
348507	ISOTYPE	VERNACULA	VAR HOBSONII

DS (DUDLEY HERBARIUM, STANFORD UNIVERSITY, STANFORD, CALIFORNIA)

149709	ISOTYPE	ABORIGINUM	
55317	ISOTYPE	ABRAMSII	
64125	ISOTYPE	ABRUPTA	
109019	ISOTYPE	ARAPAHOENSIS	
489410	HOLOTYPE	AUSTROMONTANA	
49734	TYPE COLLECTION	CALIFORNICA	
269649	ISOTYPE	CONSTANCEANA	
145619	HOLOTYPE	DUDLEYI	
629609	ISOTYPE	DUDLEYI	
144009	ISOTYPE	EASTWOODIANA	
284598	ISOTYPE	EGREGIA	
149706	ISOTYPE	ELRODI	
145620	HOLOTYPE	GRACILIOR	
49500	ISOTYPE	GYNODYNAMA	
490408	ISOTYPE	GYNODYNAMA	
278190	ISOTYPE	INTERIOR	VAR CHARLESTONENSIS
78003	HOLOTYPE	JACINTOENSIS	
490443	ISOTYPE	LEPORINELLA	
13923	ISOTYPE	LEPTOPODA	
76794	ISOTYPE	LUZULINA	
54832	ISOTYPE	MENDOCINENSIS	
489409	HOLOTYPE	MULTICOSTATA	
171453	ISOTYPE	NEBRASKENSIS	VAR ERUCAEFORMIS
	ISOTYPE	NUDATA	VAR FIRMIOR
270930	ISOTYPE	OBISPOENSIS	
490462	SYNTYPE	PANSA	
49738	TYPE COLLECTION	PAUCICOSTATA	
55002	SYNTYPE	QUADRIFIDA	
293480	TYPE COLLECTION	SALINAEFORMIS	
490735	ISOTYPE	SCABRIUSCULA	
258275	ISOTYPE	SONOMENSIS	

SHEET NO. KIND OF TYPE TAXON

DS (DUDLEY HERBARIUM, STANFORD UNIVERSITY, STANFORD, CALIFORNIA)

374718	ISOTYPE	SONOMENSIS	
337970	ISOTYPE	SPECUICOLA	
83850	ISOTYPE	STENOPTERA	
171455	ISOTYPE	SUKSDORFII	
269641	ISOTYPE	SUKSDORFII	
269625	SYNTYPE	SUKSDORFII	VAR OVALIS
63991	ISOTYPE	ULTRA	
64032	ISOTYPE	ULTRA	

F (FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS)

186491	ISOTYPE	ABRAMSII	
206585	TYPE MATERIAL	ACUTINA	
32699	ISOTYPE	ALOPECOIDEA	
32700	ISOTYPE	ALOPECOIDEA	
56916	ISOTYPE	ALOPECOIDEA	
349624	ISOTYPE	ALOPECOIDEA	
373673	ISOTYPE	ALOPECOIDEA	
373679	ISOTYPE	ALOPECOIDEA	
1464064	TYPE MATERIAL	APODOSTACHYA	
264169	ISOTYPE	AUTUMNALIS	
1266184	TYPE MATERIAL	AZUAYAE	
999642	TYPE MATERIAL	BARTLETTII	
314869	ISOTYPE	BONPLANDII	VAR MINOR
456934	ISOTYPE	BONPLANDII	VAR MINOR
1620435	ISOTYPE	CHIAPENSIS	
49642	ISOTYPE	CHIHUAHUAENSIS	
202021	ISOTYPE	CILIARIS	
26304	TYPE MATERIAL	CREBRIFLORA	
1128952	HOLOTYPE	CUCHUMATANENSIS	
1266170	HOLOTYPE	CULMENICOLA	
1406416	TYPE MATERIAL	CUNEATA	
751055	ISOTYPE	X DEAMII	
455703	TYPE COLLECTION	DEWEYANA	VAR SPARSIFLORA
1429766	TYPE COLLECTION	DEWEYANA	VAR SPARSIFLORA
122779	TYPE MATERIAL	FESTIVA	VAR DECUMBENS
314892	SYNTYPE	HALLII	
456958	SYNTYPE	HALLII	
176870	ISOTYPE	HARPERI	
1411493	TYPE MATERIAL	HATUSIMANA	
283119	TYPE MATERIAL	HELLERI	
1128957	HOLOTYPE	HUEHUETECA	
1463659	TYPE MATERIAL	HYMENODON	
314869	ISOTYPE	ILLOTA	
456934	ISOTYPE	ILLOTA	
1076930	ISOTYPE	INTERIOR	VAR CHARLESTONENSIS
263394	TYPE COLLECTION	INVOLUCRATELLA	

SHEET NO.	KIND OF TYPE	TAXON	
F	(FIELD MUSEUM OF NATURAL HISTORY, CHICAGO, ILLINOIS)		
1406403	TYPE MATERIAL	KURILENSIS	
129242	SYNTYPE	LACUNARUM	
1566419	SYNTYPE	LACUNARUM	
1481645	ISOTYPE	LANGEANA	
55470	HOLOTYPE	LARENSIS	
267758	ISOTYPE	LAXIFLORA	VAR LEPTONERVIA
455706	TYPE COLLECTION	LEPORINA	VAR AMERICANA
1425899	TYPE COLLECTION	LEPORINA	VAR AMERICANA
206587	TYPE COLLECTION	MARCIDA	VAR DEBILIS
866418	ISOTYPE	OBISPOENSIS	
455736	SYNTYPE	OREGONENSIS	
96129	TYPE MATERIAL	OXYCARPA	
211365	TYPE MATERIAL	OXYCARPA	
223512	TYPE MATERIAL	PADDOENSIS	
1471489	TYPE MATERIAL	PADDOENSIS	
309086	TYPE MATERIAL	PAUCICOSTATA	
178542	ISOTYPE	PERLONGA	
455706	TYPE COLLECTION	PHAEOCEPHALA	
1425899	TYPE COLLECTION	PHAEOCEPHALA	
755322	TYPE MATERIAL	PHYSOCHLAENA	
105551	TYPE COLLECTION	PRINGLEI	
1607711	TYPE COLLECTION	PRINGLEI	
215918	TYPE COLLECTION	PSEUDOJAPONICA	
1263854	HOLOTYPE	RORAIMENSIS	
1489429	ISOTYPE	RUGATA	
1463953	TYPE MATERIAL	RUGATA	
30885	TYPE MATERIAL	SALINAEFORMIS	
210109	TYPE COLLECTION	SCIRPOIDEA	VAR GIGAS
464432	SYNTYPE	SCOPARIA	VAR SUBTURBINATA
907841	ISOTYPE	SONOMENSIS	
1252385	HOLOTYPE	STANDLEYANA	
1129096	HOLOTYPE	STEYERMARKII	
813737	TYPE COLLECTION	STIPATA	VAR LAEVIVAGINATA
1263858	HOLOTYPE	TACHIRENSIS	
1263857	HOLOTYPE	TAMANA	
1129085	TYPE MATERIAL	TOJQUIANENSIS	
1129086	TYPE MATERIAL	TOJQUIANENSIS	
1266183	TYPE MATERIAL	TREADORA	
1128966	TYPE	TUNIMANENSIS	
1266150	HOLOTYPE	TURUMIQUIRENSIS	
1129094	HOLOTYPE	VENOSIVAGINATA	
89120	TYPE MATERIAL	VITREA	
309085	SYNTYPE	WHITNEYI	
309086	SYNTYPE	WHITNEYI	

SHEET NO. KIND OF TYPE TAXON

GH (GRAY HERBARIUM, HARVARD UNIVERSITY, CAMBRIDGE, MASSACHUSETTS)

ISONEOTYPE	ABLATA	
ISOTYPE	ABSCONDITA	VAR ROSTELLATA
HOLOTYPE	X ABSCONDITIFORMIS	
ISOTYPE	X ABSCONDITIFORMIS	
SYNTYPE	ACCEDENS	
TYPE COLLECTION	ACUTA	VAR PALLIDA
ISOTYPE	ACUTINA	
SYNTYPE	ADUSTA	VAR GLOMERATA
SYNTYPE	AENEA	
TYPE COLLECTION	AEQUA	
ISOTYPE	AESTIVALIFORMIS	
HOLOTYPE	ALATA	VAR FERRUGINEA
ISOTYPE	ALOPECOIDEA	
ISOTYPE	ALOPECOIDEA	VAR SPARSI-SPICATA
HOLOTYPE	AMPHIBOLA	VAR TURGIDA
TYPE	ANGUSTIOR	VAR GRACILENTA
SYNTYPE	APERTA	
ISOTYPE	AQUATILIS	VAR SUBSTRICTA
ISOTYPE	ARAPAHOENSIS	
HOLOTYPE	ARGYRANTHA	
ISOTYPE	ARGYRANTHA	
HOLOTYPE	ARISTATA	VAR LONGO-LANCEOLATA
ISOTYPE	ARSENII	
HOLOTYPE	ARTITECTA	VAR SUBTILIROSTRIS
SYNTYPE	ASSINIBOINENSIS	
TYPE COLLECTION	AZTECICA	
TYPE COLLECTION	BACKANA	
SYNTYPE	BACKII	
HOLOTYPE	BARBARAE	
ISOTYPE	BARTLETTII	
HOLOTYPE	BAYARDI	
ISOTYPE	BILTMOREANA	
HOLOTYPE	BONPLANDII	VAR MINOR
ISOTYPE	BREWERI	
ISOTYPE	BURCHELLIANA	
ISOTYPE	CAESARIENSIS	
PARATYPE	CANESCENS	VAR DISJUNCTA
ISOTYPE	CANESCENS	VAR SPHAEROSTACHYA
TYPE COLLECTION	CAROLINIANA	
TYPE	CEPHALOPHORA	VAR MAXIMA
SYNTYPE	CHALCIOLEPIS	
HOLOTYPE	CILIARIS	
TYPE COLLECTION	CINNAMOMEA	
ISOTYPE	CIRCINNATA	
HOLOTYPE	CLIVICOLA	
HOLOTYPE	COLLECTA	
SYNTYPE	CONJUNCTA	
HOLOTYPE	COOLEYI	

SHEET NO.	KIND OF TYPE	TAXON
GH	(GRAY HERBARIUM, HARVARD UNIVERSITY, CAMBRIDGE, MASSACHUSETTS)	
	SYNTYPE	CRAWFORDII
	SYNTYPE	CRAWFORDII
	TYPE	CREBRIFLORA
	HOLOTYPE	CRINITA
	SYNTYPE	CRINITA
	ISOTYPE	CRISTATA
	ISOTYPE	CRUS-CORVI
	HOLOTYPE	CRUS-CORVI
	HOLOTYPE	CUMULATA
	ISOTYPE	DANAENSIS
	ISOTYPE	DAVYI
	HOLOTYPE	DEBILIS
	HOLOTYPE	DEBILIS
	ISOTYPE	DEVIA
	HOLOTYPE	DEWEYANA
	TYPE COLLECTION	DEWEYANA
	HOLOTYPE	DIGITALIS
	HOLOTYPE	DIGITALIS
	TYPE MATERIAL	DOUGLASII
	ISOTYPE	X DUMANII
	ISOTYPE	DUTILLYI
	ISOTYPE	EASTWOODIANA
	HOLOTYPE	ECHINATA
	ISOTYPE	EKMANII
	ISOTYPE	EKMANII
	TYPE MATERIAL	ELBERTANA
	ISOTYPE	ELEOCHARIS
	ISOTYPE	ELYNOIDES
	HOLOTYPE	ENGELMANNI
	TYPE MATERIAL	ERXLEBENIANA
	ISOTYPE	EURYSTACHYA
	HOLOTYPE	EXPLORATORUM
	TYPE COLLECTION	FELIPENSIS
	ISOTYPE	FESTIVELLA
	HOLOTYPE	FETA
	ISOTYPE	FILIFOLIA
	HOLOTYPE	FISSA
	HOLOTYPE	FLACCOSPERMA
	HOLOTYPE	FLAVA
	ISOTYPE	FLAVA
	ISOTYPE	FOENEA
	ISOTYPE	FORMOSA
	ISOTYPE	FRANKLINII
	ISOTYPE	GARBERI
	HOLOTYPE	GARBERI
	HOLOTYPE	GLAREOSA
	ISOTYPE	GLAUCODEA
	ISOTYPE	GRACILIOR
		VAR VIGENS
		VAR BREVICRINIS
		VAR SIMULANS
		VAR VIRGINIANA
		FOR SOLUTA
		VAR INTERCURSA
		VAR PUBERA
		VAR COLLECTANEA
		VAR SPARSIFLORA
		VAR ASYMMETRICA
		VAR MACROPODA
		VAR DENSISPICATA
		VAR ORMANTHA
		VAR HOTTENSIS
		VAR EROSTRATA
		VAR ARISTATA
		VAR GASPENSIS
		VAR RECTIROSTRA
		VAR PERPLEXA
		VAR BIFARIA
		VAR AMPHIGENA

SHEET NO.	KIND OF TYPE	TAXON
GH	(GRAY HERBARIUM, HARVARD UNIVERSITY, CAMBRIDGE, MASSACHUSETTS)	
	ISOTYPE	GRACILLIMA
	HOLOTYPE	GRISEA
	HOLOTYPE	GUATEMALENSIS
	TYPE COLLECTION	HALLIANA
	SYNTYPE	HALLII
	HOLOTYPE	HALSEYANA
	HOLOTYPE	HARPERI
	SYNTYPE	HAYDENIANA
	HOLOTYPE	HEBETATA
	SYNTYPE	HEPBURNII
	TYPE MATERIAL	HETERONEURA
	HOLOTYPE	HITCHCOCKIANA
	TYPE COLLECTION	HOOKERANA
	SYNTYPE	HORMATHODES
	HOLOTYPE	HORNSCHUCHIANA
	HOLOTYPE	HOSTIANA
	HOLOTYPE	ILLOTA
	ISOTYPE	INCISO-DENTATA
	ISOTYPE	INCURVIFORMIS
	HOLOTYPE	INFLATA
	HOLOTYPE	INOPS
	ISOTYPE	INTERIMUS
	ISOTYPE	INTERIOR
	HOLOTYPE	INTERIOR
	HOLOTYPE	INTERIOR
	HOLOTYPE	INTUMESCENS
	ISOTYPE	INVOLUCRATELLA
	ISOTYPE	KALOIDES
	HOLOTYPE	KATAHDINENSIS
	SYNTYPE	KELLOGGII
	ISOTYPE	KOKRINENSIS
	HOLOTYPE	LAEVI-CONICA
	HOLOTYPE	LANGEANA
	HOLOTYPE	LASIOCARPA
	ISOTYPE	LATEBRACTEATA
	HOLOTYPE	LAXIFLORA
	HOLOTYPE	LAXIFLORA
	ISOTYPE	LEIOCARPA
	ISOTYPE	LEIOPHYLLA
	TYPE COLLECTION	LEMMONI
	TYPE COLLECTION	LEPORINA
	ISOTYPE	LEPORINELLA
	HOLOTYPE	LIVIDA
	ISOTYPE	LONGICULMIS
	TYPE COLLECTION	LUZULINA
	HOLOTYPE	MACKENZIANA
	HOLOTYPE	MEADII
	TYPE COLLECTION	MEEKII
		VAR RIGIDA
		VAR LAURENTIANA
		VAR LAURENTIANA
		VAR ANTICOSTENSIS
		VAR CHARLESTONENSIS
		VAR JOSSELYNII
		VAR KEWEENAWENSIS
		FOR VENTRIOSA
		VAR AMERICANA
		VAR LEPTONERVIA
		VAR SERRULATA
		VAR AMERICANA
		VAR RUFINAEFORMIS

SHEET NO.	KIND OF TYPE	TAXON
GH	(GRAY HERBARIUM, HARVARD UNIVERSITY, CAMBRIDGE, MASSACHUSETTS)	
	ISOTYPE	MELOZITNENSIS
	HOLOTYPE	MENDOCINENSIS
	HOLOTYPE	MERRITT-FERNALDII
	ISOTYPE	MESOCHOREA
	ISOTYPE	MICROCHAETA
	HOLOTYPE	MILIARIS VAR AUREA
	HOLOTYPE	MIRABILIS
	SYNTYPE	MIRABILIS VAR PERLONGA
	SYNTYPE	MIRABILIS VAR TINCTA
	HOLOTYPE	MISANDROIDES
	HOLOTYPE	MONTEREYENSIS
	ISOTYPE	NELSONII
	ISOTYPE	X NEOBIGELOWII
	HOLOTYPE	X NEOFILIPENDULA
	ISOTYPE	X NEOPALEACEA
	HOLOTYPE	NERVINA
	ISOTYPE	NEUROPHORA
	ISOTYPE	NIGRICANS
	ISOTYPE	NOVAE-ANGLIAE
	ISOTYPE	X NUBENS
	ISOTYPE	NUBICOLA
	HOLOTYPE	NUTTALLII
	ISOTYPE	OAXACANA
	ISOTYPE	OBISPOENSIS
	ISOTYPE	OBOVOIDEA
	HOLOTYPE	OLIGOCARPA VAR LATIFOLIA
	HOLOTYPE	ORMOSTACHYA
	HOLOTYPE	ORONENSIS
	ISOTYPE	PACHYSTACHYA
	ISOTYPE	PADDOENSIS
	ISOTYPE	PALAWANENSIS
	HOLOTYPE	PALLESCENS VAR NEOGAEA
	HOLOTYPE	PAPULOSA
	ISOTYPE	X PATUENSIS
	HOLOTYPE	PAUPERCULA VAR BREVISQUAMA
	HOLOTYPE	PAUPERCULA VAR PALLENS
	ISOTYPE	PAYSONIS
	HOLOTYPE	PERLONGA
	ISOTYPE	PERSTRICTA
	ISOTYPE	PETRIEI
	TYPE COLLECTION	PHAEOCEPHALA
	HOLOTYPE	PHYLLOMANICA
	ISOTYPE	PINETORUM VAR ELATIOR
	ISOTYPE	PIPERI
	TYPE MATERIAL	PLATYPHYLLA
	TYPE MATERIAL	PODOCARPA
	HOLOTYPE	PORTERI
	ISOTYPE	POTOSINA

SHEET NO.	KIND OF TYPE	TAXON	
GH	(GRAY HERBARIUM, HARVARD UNIVERSITY, CAMBRIDGE, MASSACHUSETTS)		
	HOLOTYPE	PRAEGRACILIS	
	HOLOTYPE	PRAIREA	
	ISOTYPE	PRATENSIS	VAR. FURVA
	SYNTYPE	PREISSII	
	TYPE COLLECTION	PRINGLEI	
	ISOTYPE	PROJECTA	
	ISOTYPE	PROPOSITA	
	HOLOTYPE	X PSEUDO-FULVA	
	ISOTYPE	X QUEBECENSIS	
	SYNTYPE	RAYNOLDSII	
	HOLOTYPE	RETROCURVA	
	ISOTYPE	RETROCURVA	VAR. COPULATA
	TYPE MATERIAL	RICHARDSONII	
	HOLOTYPE	RICHARDSONII	FOR EXSERTA
	HOLOTYPE	ROSEA	VAR. ARKANSANA
	ISOTYPE	RUBRO-BRUNNEA	VAR. ELINEOLATA
	HOLOTYPE	RUGATA	
	HOLOTYPE	SARTWELLIANA	
	ISOTYPE	X SAXENII	NM. FERRUGINEA
	ISOTYPE	SCHAFFNERI	
	HOLOTYPE	SCHNEIDERI	
	HOLOTYPE	SCHWEINITZII	
	HOLOTYPE	SCOPARIA	VAR. CONDENSEA
	SYNTYPE	SCOPARIA	VAR. FULVA
	HOLOTYPE	SCOPARIA	VAR. MONILIFORMIS
	HOLOTYPE	SCOPARIA	FOR PERACUTA
	HOLOTYPE	SCOPARIA	VAR. SUBTURBINATA
	HOLOTYPE	SCOPARIA	VAR. TESSELLATA
	ISOTYPE	SEATONIANA	
	ISOTYPE	SONOMENSIS	
	HOLOTYPE	SOPERI	
	ISOTYPE	SPECUICOLA	
	TYPE COLLECTION	SPRETA	
	TYPE COLLECTION	STIPATA	VAR. LAEVIVAGINATA
	SYNTYPE	STRAMINEA	VAR. CUMULATA
	SYNTYPE	STRAMINEA	VAR. ECHINODES
	SYNTYPE	STYLOSA	VAR. VIRENS
	ISOTYPE	SUB-BRACTEATA	
	ISOTYPE	SUBFUSCA	
	ISOTYPE	SUKSDORFII	
	ISOTYPE	SYCHNOCEPHALA	
	HOLOTYPE	TENERA	
	HOLOTYPE	TENERA	VAR. RICHII
	ISOTYPE	TENUIFLORA	VAR. SETACEA
	HOLOTYPE	TERRAE-NOVAE	
	HOLOTYPE	THURBERI	
	HOLOTYPE	X TRICHINA	
	HOLOTYPE	TRICHOPHYLLA	

SHEET NO. KIND OF TYPE TAXON

GH (GRAY HERBARIUM, HARVARD UNIVERSITY, CAMBRIDGE, MASSACHUSETTS)

ISOTYPE	TRISPERMA	VAR BILLINGSII
ISOTYPE	TSOI	
ISOTYPE	TURUMIQUIRENSIS	
HOLOTYPE	UMBELLATA	VAR VICINA
ISOTYPE	UNCOMPAHGRE	
HOLOTYPE	VAGINATA	VAR ALTO-CAULIS
HOLOTYPE	VALLICOLA	
ISOTYPE	VENOSIVAGINATA	
ISOTYPE	VERNACULA	VAR HOBSONII
HOLOTYPE	VESICARIA	VAR JEJUNA
HOLOTYPE	VESICARIA	VAR LAURENTIANA
HOLOTYPE	VESTITA	VAR KENNEDYI
HOLOTYPE	VICARIA	
ISOTYPE	VIRIDULA	FOR PYGMAEA
HOLOTYPE	VULPINOIDEA	VAR PYCNOCEPHALA
HOLOTYPE	WATSONI	
ISOTYPE	WIEGANDII	
TYPE COLLECTION	WILLDENOVII	VAR PAUCIFLORA
HOLOTYPE	WOODII	
HOLOTYPE	X XANTHINA	
SYNTYPE	XERANTICA	

JEPS (JEPSON HERBARIUM, UNIVERSITY OF CALIFORNIA, BERKELEY)

2511	ISOTYPE	DAVYI	
4013	ISOTYPE	INTERIOR	VAR CHARLESTONENSIS
20008	ISOTYPE	JEPSONII	
19722	ISOTYPE	MARIPOSANA	

MO (MISSOURI BOTANICAL GARDEN, ST. LOUIS)

	TYPE COLLECTION	ABSCONDIRA	VAR ROSTELLATA
1306480	ISOTYPE	X ABSCONDIRIFORMIS	
	SYNTYPE	ACCEDENS	
	TYPE MATERIAL	AESTIVALIFORMIS	
	TYPE MATERIAL	AESTIVALIS	
	TYPE COLLECTION	AGGLOMERATA	
	TYPE COLLECTION	AQUATILIS	VAR SUBSTRICTA
	SYNTYPE	ATHROSTACHYA	
1834152	HOLOTYPE	AUSTRO-CAROLINIANA	
	ISOTYPE	AUTUMNALIS	
	TYPE COLLECTION	AZTECICA	
1611724	SYNTYPE	BANKSII	
	ISOTYPE	BONPLANDII	VAR MINOR
710112	TYPE COLLECTION	BULBOSTYLIS	
	TYPE COLLECTION	CALIFORNICA	

SHEET NO. KIND OF TYPE TAXON

MO (MISSOURI BOTANICAL GARDEN, ST. LOUIS)

	SYNTYPE	CHALCIOLEPIS	
	ISOTYPE	CILIARIS	
1108572	ISOTYPE	CRUS-CORVI	VAR VIRGINIANA
	TYPE MATERIAL	DEBILIFORMIS	
1306423	ISOTYPE	DIGITALIS	VAR ASYMMETRICA
1129747	ISOTYPE	DIGITALIS	VAR MACROPODA
	ISOTYPE	DUDLEYI	
	TYPE MATERIAL	ELMERI	
	TYPE COLLECTION	ELYNOIDES	
	ISOTYPE	EPAPILLOSA	
1816497	TYPE COLLECTION	FENDLERIANA	
	ISOTYPE	FISSA	
	ISOTYPE	GRACILIOR	
	TYPE MATERIAL	GYMNOCLADA	
	SYNTYPE	HALLII	
	TYPE MATERIAL	HAYDENII	
	ISOTYPE	ILLOTA	
1816496	TYPE COLLECTION	INTERIOR	
1148381	ISOTYPE	INTERIOR	VAR CHARLESTONENSIS
1190731	ISOTYPE	INTERIOR	VAR CHARLESTONENSIS
1201697	ISOTYPE	INTERIOR	VAR CHARLESTONENSIS
	TYPE MATERIAL	INVOLUCRATELLA	
	SYNTYPE	LACUNARUM	
1692174	ISOTYPE	LATEBRACTEATA	
	ISOTYPE	LAXIFLORA	VAR LEPTONERVIA
	TYPE COLLECTION	LEPORINA	VAR AMERICANA
	TYPE MATERIAL	LUZULINA	
	ISOTYPE	MEADII	
	ISOTYPE	MENDOCINENSIS	
952735	TYPE COLLECTION	NEBRASKENSIS	VAR ERUCAEFORMIS
	TYPE MATERIAL	NUDATA	
	TYPE COLLECTION	OAXACANA	
1220830	TYPE MATERIAL	OBOVOIDEA	
	TYPE MATERIAL	OKLAHOMENSIS	
	TYPE MATERIAL	PAUCICOSTATA	
	TYPE MATERIAL	PERGLOBOSA	
	ISOTYPE	PERLONGA	
	TYPE COLLECTION	PHAEOCEPHALA	
	ISOTYPE	PHYLLOMANICA	
920815	TYPE COLLECTION	PHYSOCHLAENA	
	TYPE MATERIAL	PRAINII	
2002968	SYNTYPE	PREISSII	
	TYPE COLLECTION	PRINGLEI	
1260436	ISOTYPE	RUBRO-BRUNNEA	VAR ELINEOLATA
1306478	ISOTYPE	RUGATA	
	TYPE MATERIAL	SALINAEFORMIS	
	TYPE MATERIAL	SAXIMONTANA	
	ISOTYPE	SCABRIUSCULA	

SHEET NO. KIND OF TYPE TAXON

MO (MISSOURI BOTANICAL GARDEN, ST. LOUIS)

2002967	TYPE COLLECTION	SCAPOSA	
	TYPE COLLECTION	SPRETA	
	TYPE COLLECTION	STIPATA	VAR LAEVIVAGINATA
	SYNTYPE	STRAMINEA	VAR CUMULATA
	TYPE COLLECTION	STYLOFLEXA	
	SYNTYPE	STYLOSA	VAR VIRENS
95212	TYPE COLLECTION	SUKSDORFII	
	TYPE COLLECTION	VIOLACEA	
	ISOTYPE	VITREA	
	SYNTYPE	WHITNEYI	
	SYNTYPE	WHITNEYI	
	SYNTYPE	WHITNEYI	

NY (NEW YORK BOTANICAL GARDEN, NEW YORK CITY)

TYPE	ABDITA	
ISONEOTYPE	ABLATA	
ISOTYPE	ABORIGINUM	
HOLOTYPE	ABRAMSII	
HOLOTYPE	ABRUPTA	
TYPE COLLECTION	ABSCONDITA	VAR ROSTELLATA
ISOTYPE	X ABSCONDITIFORMIS	
TYPE COLLECTION	ACUTINA	
TYPE COLLECTION	AEQUA	
TYPE MATERIAL	AESTIVALIS	
TYPE	AGGREGATA	
SYNTYPE	ALATA	
TYPE COLLECTION	ALBIDA	
ISOTYPE	ALMA	
ISOTYPE	ALOPECOIDEA	
ISOTYPE	ALOPECOIDEA	VAR SPARSI-SPICATA
TYPE COLLECTION	AMPHIBOLA	
TYPE COLLECTION	ANGUSTIOR	
ISOTYPE	APODA	
TYPE COLLECTION	AQUATILIS	
ISOTYPE	ARAPAHOENSIS	
TYPE	ARCTAEFORMIS	
TYPE COLLECTION	ARCTICA	
ISOTYPE	ARSENII	
SYNTYPE	ATHROSTACHYA	
SYNTYPE	ATHROSTACHYA	
ISOTYPE	ATTRACTODES	
ISOTYPE	ATROSQUAMA	
ISOTYPE	AUREA	VAR ANDROGYNA
TYPE COLLECTION	AUROLENSIS	
ISOTYPE	AZUAYAE	
SYNTYPE	BACKII	

SHEET NO. KIND OF TYPE TAXON

NY (NEW YORK BOTANICAL GARDEN, NEW YORK CITY)

COTYPE	BALTZELLII	
ISOTYPE	BARBARAE	
TYPE COLLECTION	BARRATTII	
TYPE	BARTLETTII	
TYPE	BILTMOREANA	
TYPE	BONANZENSIS	
TYPE COLLECTION	BREVICAULIS	
HOLOTYPE	BREVISQUAMA	
SYNTYPE	BRONGNIARTII	VAR DENSA
TYPE COLLECTION	BUCKLEYI	
TYPE COLLECTION	BUSHII	
TYPE	CAESARIENSIS	
TYPE COLLECTION	CALIFORNICA	
HOLOTYPE	CAMPYLOCARPA	SSP AFFINIS
ISOTYPE	CANESCENS	VAR DUBIA
TYPE COLLECTION	CANESCENS	VAR SPHAEROSTACHYA
HOLOTYPE	CAREYANA	
TYPE COLLECTION	CAROLINIANA	
SYNTYPE	CHALCIOLEPIS	
ISOTYPE	CHIAPENSIS	
HOLOTYPE	CHIHUAHUAENSIS	
TYPE	CHIKUNGANA	
ISOTYPE	CILIARIS	
HOLOTYPE	COLUMBIANA	
TYPE	CONCINNOIDES	
ISOTYPE	CONSTANCEANA	
TYPE	CONVOLUTA	
TYPE COLLECTION	COSTATA	
TYPE COLLECTION	CRANDALLII	
TYPE	CREBRIFLORA	
ISOTYPE	CRUS-CORVI	VAR VIRGINIANA
TYPE	CRYPTOLEPIS	
ISOTYPE	CUBENSIS	
TYPE COLLECTION	CUBENSIS	VAR FLACCIDA
SYNTYPE	CUSICKII	
ISOTYPE	DAVYI	
TYPE COLLECTION	DEWEYANA	VAR SPARSIFLORA
TYPE COLLECTION	DIGITALIS	VAR GLAUCA
ISOTYPE	DIGITALIS	VAR MACROPODA
ISOTYPE	DUDLEYI	
SYNTYPE	DURIFOLIA	
TYPE	EBENEA	
TYPE COLLECTION	EGGERTII	
ISOTYPE	EGGLESTONII	
TYPE	EGREGIA	
TYPE MATERIAL	EKMANII	
ISOTYPE	ELRODII	
HOLOTYPE	EPAPILLOSA	

SHEET NO.	KIND OF TYPE	TAXON	
NY	(NEW YORK BOTANICAL GARDEN, NEW YORK CITY)		
	ISOTYPE	EPAPILLOSA	
	ISOTYPE	EXPLORATORUM	
	TYPE MATERIAL	FARGESII	
	TYPE COLLECTION	FELIPENSIS	
	TYPE	FENDLERIANA	
	SYNTYPE	FESTIVA	
	TYPE COLLECTION	FESTIVA	VAR DECUMBENS
	TYPE MATERIAL	FESTIVA	VAR STRICTA
	TYPE	FESTIVELLA	
	HOLOTYPE	FISSA	
	ISOTYPE	FISSA	VAR ARISTATA
	TYPE	FLACCIDULA	
	ISOTYPE	FLACCOSPERMA	
	TYPE	FRANKLINII	
	TYPE	FULVESCENS	
	TYPE MATERIAL	FUSCULATEA	
	TYPE	FUSCOTINCTA	
	TYPE	GAYANA	VAR HYALINA
	TYPE COLLECTION	GEYERI	
	ISOTYPE	GLAREOSA	VAR AMPHIGENA
	TYPE COLLECTION	GRIFFITHII	
	ISOTYPE	GYMNOCLADA	
	ISOTYPE	GYNODYNAMA	
	SYNTYPE	HALEI	
	SYNTYPE	HALLII	
	SYNTYPE	HALLII	
	ISOTYPE	HALSEYANA	
	HOLOTYPE	HARFORDII	
	ISOTYPE	HARPERI	
	TYPE COLLECTION	HASSEI	
	TYPE	HELLERI	
	TYPE	HETEROSTACHYA	
	ISOTYPE	HINDSII	VAR BREVIGLUMA
	TYPE COLLECTION	HIRSUTA	VAR CUSPIDATA
	TYPE	HOLMIANA	
	SYNTYPE	HOODII	VAR NERVOSA
	SYNTYPE	HOODII	VAR NEUROCARPA
	TYPE COLLECTION	HOOKERANA	
	ISOTYPE	HORNSCHUCHIANA	VAR LAURENTIANA
	HOLOTYPE	HOUGHTONIANA	
	TYPE COLLECTION	IGNOTA	
	TYPE COLLECTION	ILLINOENSIS	
	TYPE	INCOMPERTA	
	HOLOTYPE	INCURVIFORMIS	
	ISOTYPE	INOPS	
	HOLOTYPE	INTEGRA	
	TYPE	INTERIMUS	
	ISOTYPE	INTERIOR	

SHEET NO. KIND OF TYPE TAXON

NY (NEW YORK BOTANICAL GARDEN, NEW YORK CITY)

ISOTYPE	INTERIOR	VAR CHARLESTONENSIS
ISOTYPE	INTERIOR	VAR JOSSELYNII
ISOTYPE	INTERIOR	VAR KEWEENAWENSIS
TYPE COLLECTION	INVOLUCRATELLA	
HOLOTYPE	JAMESII	
HOLOTYPE	JEPSONII	
SYNTYPE	JONESII	
ISOTYPE	KATAHDINENSIS	
TYPE	KULINGANA	
TYPE	LACINIATA	
SYNTYPE	LACUNARUM	
ISOTYPE	LANCIFRUCTUS	
TYPE	LARICINA	
ISOTYPE	LAXIFLORA	VAR LEPTONERVIA
ISOTYPE	LAXIFLORA	VAR SERRULATA
TYPE COLLECTION	LEAVENWORTHII	
ISOTYPE	LENTICULARIS	VAR PAULLIFRUCTUS
TYPE COLLECTION	LEPORINA	VAR AMERICANA
TYPE	LEPTOPODA	
TYPE COLLECTION	LONGIROSTRIS	VAR MICROCYSTIS
TYPE	LUNELLIANA	
TYPE COLLECTION	LUZULINA	
COTYPE	MACROKOLEA	
TYPE	MACROSPERMA	
ISOTYPE	MADRENSIS	
ISOTYPE	MANDONIANA	
TYPE	MARCIDA	VAR DEBILIS
HOLOTYPE	MARIPOSANA	
ISOTYPE	MEADII	
TYPE	MEDITERRANIA	
ISOTYPE	MENDOCINENSIS	
TYPE MATERIAL	MERRILLII	
TYPE	MICROPTERA	
ISOTYPE	MISANDROIDES	
ISOTYPE	MISERA	
HOLOTYPE	MOHRIANA	
HOLOTYPE	MOLESTA	
SYNTYPE	MONTANENSIS	
TYPE MATERIAL	NANA	
ISOTYPE	NEBRASKENSIS	
ISOTYPE	NEBRASKENSIS	VAR ERUCAEFORMIS
ISOTYPE	NEBRASKENSIS	VAR ULTRIFORMIS
HOLOTYPE	NELSONII	
ISOTYPE	X NEOBIGELOWII	
TYPE COLLECTION	NEOMEXICANA	
ISOTYPE	NEUROPHORA	
TYPE COLLECTION	NIGRO-MARGINATA	
ISOTYPE	NUTTALLII	

SHEET NO.	KIND OF TYPE	TAXON	
NY	(NEW YORK BOTANICAL GARDEN, NEW YORK CITY)		
	ISOTYPE	OBISPOENSIS	
	TYPE	OEDERI	VAR ROUSSEAUIANA
	TYPE	OKLAHOMENSIS	
	SYNTYPE	OLYMPICA	
	TYPE	ONUSTA	
	SYNTYPE	OREGONENSIS	
	ISOTYPE	ORONENSIS	
	TYPE COLLECTION	OXYLEPIS	VAR PUBESCENS
	ISOTYPE	PADDOENSIS	
	TYPE MATERIAL	PALAWANENSIS	
	SYNTYPE	PANSA	
	ISOTYPE	PAPULOSA	
	TYPE COLLECTION	PARRYANA	
	TYPE COLLECTION	PAUCICOSTATA	
	HOLOTYPE	PELOCARPA	
	HOLOTYPE	PERGLOBOSA	
	ISOTYPE	PERLONGA	
	TYPE	PERSTRICTA	
	TYPE	PETASATA	
	TYPE	PETRICOSA	
	TYPE COLLECTION	PHAEOCEPHALA	
	ISOTYPE	PHAEOLEPIS	
	TYPE MATERIAL	PHILOCRENA	
	ISOTYPE	PHYLLOMANICA	
	TYPE COLLECTION	PHYSOCHLAENA	
	TYPE COLLECTION	PICTA	
	ISOTYPE	PINETORUM	VAR ELATIOR
	TYPE MATERIAL	PITYOPHILA	
	HOLOTYPE	PLATYLEPIS	
	HOLOTYPE	PRAECEPTORIUM	
	TYPE COLLECTION	PRINGLEI	
	TYPE COLLECTION	PRIONPHYLLA	
	TYPE COLLECTION	PROJECTA	
	HOLOTYPE	PROPOSITA	
	TYPE COLLECTION	PSEUDOJAPONICA	
	TYPE COLLECTION	PTYCHOCARPA	
	TYPE COLLECTION	PURPURIFERA	
	SYNTYPE	QUADRIFIDA	
	SYNTYPE	QUADRIFIDA	VAR LENIS
	ISOTYPE	X QUEBECENSIS	
	TYPE	RACHILLIS	
	TYPE	RETROFLEXA	
	COTYPE	RHYNCHACHAENIUM	
	ISOTYPE	RORAIMENSIS	
	ISOTYPE	ROSAEOIDES	
	ISOTYPE	ROSEA	VAR ARKANSANA
	TYPE	ROSEA	VAR PUSILLA
	TYPE	ROSEA	VAR STAMINATA

SHEET NO. KIND OF TYPE TAXON

NY (NEW YORK BOTANICAL GARDEN, NEW YORK CITY)

TYPE	RUBRO-BRUNNEA	VAR ELINEOLATA
ISOTYPE	RUGATA	
TYPE	RUGOSPERMA	
TYPE	RUSBYI	
HOLOTYPE	RUTHII	
TYPE COLLECTION	SALINAEFORMIS	
TYPE COLLECTION	SANGUINEA	
TYPE COLLECTION	SARTWELLII	
ISOTYPE	SAVAIIENSIS	
TYPE MATERIAL	SAXIMONTANA	
TYPE	SCABRIUSCULA	
TYPE	SCIRPIFORMIS	
TYPE COLLECTION	SCIRPOIDEA	VAR GIGAS
TYPE COLLECTION	SCIRPOIDEA	VAR STENOCHLAENA
TYPE COLLECTION	SCOPARIA	VAR MINOR
ISOTYPE	SCOPARIA	VAR SUBTURBINATA
ISOTYPE	SCOPARIA	VAR TESSELLATA
HOLOTYPE	SCOULERI	
ISOTYPE	SHELDONII	
TYPE	SHELDONII	
TYPE COLLECTION	SICCATA	
HOLOTYPE	SIMULATA	
ISOTYPE	SONOMENSIS	
ISOTYPE	SPECUICOLA	
TYPE	STANTONENSIS	
ISOTYPE	STELLATA	
TYPE	STELLULATA	VAR CONFERTA
TYPE	STENOPTERA	
ISOTYPE	STERILIS	VAR EXCELSIOR
TYPE COLLECTION	STEUDELII	
TYPE COLLECTION	STIPATA	VAR LAEVIVAGINATA
TYPE COLLECTION	STIPATA	VAR SUBSECUTA
ISOTYPE	STIPATA	VAR UBERIOR
SYNTYPE	STRAMINEA	VAR CUMULATA
SYNTYPE	STRAMINEA	VAR RENIFORMIS
TYPE COLLECTION	STRICTA	VAR XEROCARPA
TYPE COLLECTION	STYLOFLEXA	
HOLOTYPE	SUB-BRACTEATA	
TYPE	SUBORBICULATA	
TYPE MATERIAL	SUBTRANSVERSA	
ISOTYPE	SUKSDORFII	
SYNTYPE	SUKSDORFII	VAR OVALIS
HOLOTYPE	TAMAKII	
HOLOTYPE	TENERAEFORMIS	
SYNTYPE	TERETIUSCULA	VAR AMPLA
ISOTYPE	TOMPKINSI	
ISOTYPE	TOREADORA	
TYPE COLLECTION	TORTA	VAR STAMINATA

SHEET NO.	KIND OF TYPE	TAXON	
NY	(NEW YORK BOTANICAL GARDEN, NEW YORK CITY)		
	ISOTYPE	TOWNSENDII	
	TYPE	TRACYI	
	ISOTYPE	TRIANGULARIS	
	ISOTYPE	TRISPERMA	
	TYPE	TSOI	
	HOLOTYPE	TUMULICOLA	
	TYPE	TURGESCENS	
	ISOTYPE	TURUMIQUIRENSIS	
	TYPE	UNDERWOODII	
	TYPE	UNILATERALIS	
	ISOTYPE	VAGANS	
	HOLOTYPE	VERNACULA	VAR HOBSONII
	TYPE COLLECTION	WERDERMANNII	
	SYNTYPE	WHITNEYI	
	SYNTYPE	WHITNEYI	
	SYNTYPE	WHITNEYI	
	TYPE COLLECTION	WILKESII	
	TYPE	WILLIAMSII	
	TYPE COLLECTION	WRIGHTII	
	TYPE	XANTHOCARPA	VAR ANNECTANS
	SYNTYPE	XERANTICA	
	TYPE COLLECTION	XEROCARPA	
	TYPE	YUKONENSIS	

UC	(UNIVERSITY OF CALIFORNIA, BERKELEY)		
905439	HOLOTYPE	APODA	
905436	HOLOTYPE	ARAPAHOENSIS	
50814	HOLOTYPE	DAVYI	
910020	HOLOTYPE	INTERIOR	VAR CHARLESTONENSIS
127723	HOLOTYPE	LANCIFRUCTUS	
55234	HOLOTYPE	LEPORINELLA	
1098	ISOTYPE	MENDOCINENSIS	
319673	HOLOTYPE	OBLANCEOLATA	
1060	HOLOTYPE	PACHYCARPA	
905434	HOLOTYPE	PAYSONIS	
835699	ISOTYPE	SONOMENSIS	
905433	HOLOTYPE	SUBIMPRESSA	
905441	HOLOTYPE	TRIBULOIDES	VAR SANGAMONENSIS

US	(U. S. NATIONAL HERBARIUM, SMITHSONIAN INSTITUTION, WASHINGTON)		
2003161	TYPE COLLECTION	ABSCONDIRA	VAR ROSTELLATA
2003299	ISOTYPE	X ABSCONDIRIFORMIS	
25164	TYPE COLLECTION	ACUTINA	
817087	TYPE COLLECTION	ACUTINA	

SHEET NO.	KIND OF TYPE	TAXON
US	(U. S. NATIONAL HERBARIUM, SMITHSONIAN INSTITUTION, WASHINGTON)	
27286	HOLOTYPE	ACUTINELLA
440179	TYPE COLLECTION	AGGLOMERATA
617798	TYPE	AGROSTOIDES
694342	TYPE	AGROSTOIDES
858947	TYPE COLLECTION	ALBO-NIGRA
2231424	TYPE	AMPLISQUAMA
865058	TYPE	ANTHOXANTHERA
1030011	TYPE COLLECTION	ARSENII
2265958	HOLOTYPE	ATHABASCENSIS
319165	SYNTYPE	ATHROSTACHYA
2133192	TYPE	ATRACTODES
2096188	ISOTYPE	ATROFUSCA
622651	HOLOTYPE	ATROSQUAMA
817295	HOLOTYPE	AUTUMNALIS
1933437	ISOTYPE	AZUAYAE
2333748	ISOTYPE	BAMBUSETORUM
1232938	SYNTYPE	BANKSII
415269	TYPE COLLECTION	BRACHYPODA
964504	TYPE COLLECTION	BRAINERDII
711129	TYPE	BRUNNEA
587668	TYPE COLLECTION	BULBOSTYLIS
29741	TYPE COLLECTION	CALIFORNICA
319268	TYPE COLLECTION	CALIFORNICA
690937	TYPE COLLECTION	CAMPYLOCARPA
1885701	ISOTYPE	CAMPYLOCARPA
368814	SYNTYPE	CHALCIOLEPIS
28433	ISOTYPE	CHAPMANI
2460272	HOLOTYPE	CHIAPENSIS
306281	ISOTYPE	CHIHUAHUAENSIS
462090	ISOTYPE	CILIARIS
28457	TYPE COLLECTION	CINNAMOMEA
319228	TYPE COLLECTION	CINNAMOMEA
350077	TYPE COLLECTION	CLADOSTACHYA
1839933	ISOTYPE	CLIVICOLA
2038822	TYPE COLLECTION	COMANS
27235	TYPE MATERIAL	CONFERTIFLORA
1032323	HOLOTYPE	CONSPECTA
278555	ISOTYPE	CRINITA
278555	SYNTYPE	CRINITA
1682487	ISOTYPE	CRUS-CORVI
1302602	TYPE COLLECTION	CUBENSIS
1765700	ISOTYPE	DANAENSIS
2003164	ISOTYPE	DEBILIS
2003133	ISOTYPE	DIGITALIS
969118	TYPE COLLECTION	DIGITALIS
1761151	ISOTYPE	DIGITALIS
817314	TYPE COLLECTION	DONNELL-SMITHII
2176489	ISOTYPE	X DUMANII
		VAR DECOLORATA
		VAR SUBTEIOGYNA
		SSP AFFINIS
		VAR MAXIMA
		VAR STRICTA
		VAR BREVICRINIS
		VAR SIMULANS
		VAR VIRGINIANA
		VAR INTERCURSA
		VAR ASYMMETRICA
		VAR GLAUCA
		VAR MACROPODA

SHEET NO.	KIND OF TYPE	TAXON	
US	(U. S. NATIONAL HERBARIUM, SMITHSONIAN INSTITUTION, WASHINGTON)		
579795	TYPE MATERIAL	DURANDII	
857864	TYPE	EGGLESTONII	
2466328	HOLOTYPE	EGGLESTONII	VAR FESTIVELLIFORMIS
1411790	COTYPE	EKMANII	
1414090	TYPE COLLECTION	EKMANII	VAR HOTTENSIS
854950	TYPE MATERIAL	ELMERI	
1531248	TYPE MATERIAL	ELRODI	
368818	TYPE COLLECTION	ELYNOIDES	
270933	ISOTYPE	EPAPILLOSA	
2265959	HOLOTYPE	EURYSTACHYA	
2176495	ISOTYPE	X EXSALINA	
1123660	ISOTYPE	FARGESII	
2449506	ISOTYPE	FISSA	VAR ARISTATA
468192	TYPE	FLACCIFOLIA	
817810	HOLOTYPE	FRACTA	
397187	TYPE COLLECTION	FUSCOLUTEA	
251773	TYPE COLLECTION	FUSCOTINCTA	
817237	TYPE COLLECTION	FUSCOTINCTA	
63525	TYPE MATERIAL	GARBERI	
660800	TYPE	GEOPHILA	
319177	ISOTYPE	GRACILIOR	
29651	SYNTYPE	HALLII	
28685	ISOTYPE	HARFORDII	
509004	ISOTYPE	HELLERI	
28206	TYPE COLLECTION	HETERONEURA	
802160	TYPE MATERIAL	ICHANGENSIS	
235568	TYPE COLLECTION	IDAHOA	
235569	TYPE COLLECTION	IDAHOA	
2265956	HOLOTYPE	INCONDITA	
1872574	ISOTYPE	INTERIMUS	
1733722	ISOTYPE	INTERIOR	VAR CHARLESTONENSIS
605797	ISOTYPE	INTERIOR	VAR JOSSELYNII
1697057	ISOTYPE	INTERIOR	VAR KEWEENAWENSIS
30661	TYPE COLLECTION	INVOLUCRATELLA	
825890	TYPE MATERIAL	JAMESONI	VAR SUBFULVA
1325047	ISOTYPE	KATAHDINENSIS	
2074700	TYPE MATERIAL	KAUAIENSIS	
430229	SYNTYPE	LACUNARUM	
801132	SYNTYPE	LANCIFOLIA	
1932015	ISOTYPE	LARENSIS	
538796	HOLOTYPE	LEIOPHYLLA	
29211	TYPE COLLECTION	LEMMONI	
2231577	HOLOTYPE	LIMNOPHILA	
800846	SYNTYPE	LONGICRURIS	VAR HENRYI
964880	TYPE COLLECTION	LUZULINA	
1746479	ISOTYPE	MACKENZIANA	
27238	TYPE MATERIAL	MACROGLOSSA	
301267	TYPE	MADRENSIS	

SHEET NO.	KIND OF TYPE	TAXON	
US	(U. S. NATIONAL HERBARIUM, SMITHSONIAN INSTITUTION, WASHINGTON)		
969118	TYPE MATERIAL	MAGNIFOLIA	
1789621	ISOTYPE	MELOZITNENSIS	
29453	ISOTYPE	MENDOCINENSIS	
711171	TYPE MATERIAL	MERRILLII	
27281	TYPE MATERIAL	MICANS	
2501314	ISOTYPE	MICRANTHA	
30695	ISOTYPE	MICROGLOCHIN	SSP FUEGINA
2543807	HOLOTYPE	MICROPTERA	VAR CRASSINERVIA
886422	HOLOTYPE	MISERABILIS	
2133195	ISOTYPE	MOHRIANA	
23257	SYNTYPE	MONTANENSIS	
2095886	ISOTYPE	MORRISSEYI	
27280	TYPE MATERIAL	NANA	
1438017	TYPE COLLECTION	NEBRASKENSIS	VAR ERUCAEFORMIS
2433719	ISOTYPE	X NEOBIGELOWII	
2176496	ISOTYPE	X NEOPALEACEA	
286861	ISOTYPE	NERVINA	
31277	TYPE MATERIAL	NUTANS	VAR JAPONICA
251772	TYPE COLLECTION	OAXACANA	
817656	TYPE COLLECTION	OAXACANA	
1678188	ISOTYPE	OBISPOENSIS	
30695	ISOTYPE	OLIGANTHA	
504456	ISOTYPE	ONUSTA	
27292	TYPE MATERIAL	OXYCARPA	
415172	TYPE	PACHYSTOMA	
529528	TYPE MATERIAL	PADDOENSIS	
872800	TYPE MATERIAL	PALAWANENSIS	
31344	ISOTYPE	PAPULOSA	
27275	TYPE MATERIAL	PARCIFLORA	
2133207	TYPE	PERCOSTATA	
461358	ISOTYPE	PERLONGA	
1545831	TYPE	PHALAROIDES	VAR PARVULA
31374	TYPE MATERIAL	PICTA	
1563811	TYPE	PIRCHINCHENSIS	VAR SIMPLEX
660821	TYPE	PITYOPHILA	
27269	TYPE MATERIAL	PLANATA	
2420276	HOLOTYPE	PLECTOCARPA	
2074725	TYPE MATERIAL	PLUVICA	VAR KOOLAUENSIS
27270	TYPE MATERIAL	PODOGYNA	
458108	TYPE MATERIAL	PRAINII	
2265957	HOLOTYPE	PRATICOLA	VAR SUBCORIACEA
865056	TYPE MATERIAL	PRESLII	
817724	TYPE COLLECTION	PRINGLEI	
1123683	ISOTYPE	PTEROLEPTA	
1282178	TYPE	PURPUREOVAGINATA	VAR ITATIAIAE
1398830	TYPE MATERIAL	PYCNOTHYSOS	
2433718	ISOTYPE	X QUEBECENSIS	
2133193	TYPE	QUICHENSIS	

SHEET NO.	KIND OF TYPE	TAXON	
US	(U. S. NATIONAL HERBARIUM, SMITHSONIAN INSTITUTION, WASHINGTON)		
1872576	TYPE MATERIAL	RACHILLIS	
626608	TYPE MATERIAL	RAMOSII	
2133190	HOLOTYPE	ROANENSIS	
1754487	ISOTYPE	RUBRO-BRUNNEA	VAR ELINEOLATA
2003132	ISOTYPE	RUGATA	
30267	TYPE COLLECTION	RUSBYI	
29888	TYPE COLLECTION	SALINAEFORMIS	
319226	TYPE COLLECTION	SALINAEFORMIS	
1545752	TYPE	SALTAENSIS	
2176493	ISOTYPE	X SAXENII	NM. FERRUGINEA
528631	ISOTYPE	SCABRIUSCULA	
305734	TYPE COLLECTION	SEATONIANA	
528495	TYPE COLLECTION	SHELDONII	
511177	TYPE COLLECTION	SMALLIANA	
1736782	ISOTYPE	SONOMENSIS	
30329	SYNTYPE	SPECIFICA	
2006386	ISOTYPE	SPECUICOLA	
452499	HOLOTYPE	STELLATA	
616142	TYPE MATERIAL	STENOPHYLLA	VAR DESERTORUM
969091	TYPE COLLECTION	STIPATA	VAR MAXIMA
28683	ISOTYPE	SUB-BRACTEATA	
1765699	ISOTYPE	SUBNIGRICANS	
710428	TYPE MATERIAL	SUBTRANSVERSA	
1437926	TYPE COLLECTION	SUKSDORFII	
1932033	ISOTYPE	TACHIRENSIS	
2092356	TYPE MATERIAL	TETSUOI	
2604281	ISOTYPE	TOMPKINSI	
568126	HOLOTYPE	TOWNSENDII	
1675120	TYPE MATERIAL	TSOI	
1933688	ISOTYPE	TURUMIQUIRENSIS	
1872573	ISOTYPE	VERNACULA	VAR HOBSONII
2050647	ISOTYPE	VESICARIA	VAR LAURENTIANA
2231425	HOLOTYPE	VEXANS	
886234	TYPE	VIRIDIOR	
1967819	ISOTYPE	VITIENSIS	
279151	ISOTYPE	VITREA	
2074653	TYPE COLLECTION	WAHUENSIS	VAR RUBIGINOSA
2133191	TYPE COLLECTION	WILLDENOWII	VAR MEGARRHYNCHA
2050636	ISOTYPE	X XANTHINA	

Bibliography

- Barnhart, John Hendley, 1871-1949 (compiler)
1965. *Barnhart's Biographical Notes Upon Botanists*. 3 volumes. Boston: G. K. Hall.
- Beschel, R. E., and J. H. Soper
1970. The Automation and Standardization of Certain Herbarium Procedures. *Canadian Journal of Botany*, 48:547-554.
- Chaudhri, M. N., I. H. Vegter, and C. M. DeWal
1972. *Index Herbariorum*, Part II (3), Collectors, I-L. *Regnum Vegetabile*, 86:297-473.
- Collier, Frederick J. (compiler)
1971. Catalog of Type Specimens of Invertebrate Fossils: Conodonta. *Smithsonian Contributions to Paleobiology*, Number 9:1-256.
- Cowan, R. S.
1970. The *Index Nominum Genericorum* Project—Past, Present, and Future. *Taxon*, 19:52-54.
- Crovello, T. J.
1972. Computerization of Specimen Data from the Edward Lee Greene Herbarium (ND-G) at Notre Dame. *Brittonia*, 24:131-141.
- Hale, Mason E., and Reginald Creighton
1970. An Automated System for Recording Exchanges. *Flora North America Report*, 32:1-9.
- Hitchcock, A. S. (chairman), and members of Committee on Nomenclature of Botanical Society of America
[1934.] *Location of Type Specimens*. 19 pages, unpublished, processed. Washington, D.C.: Smithsonian Institution.
[1935.] *Location of Type Specimens. List 2*. 30 pages, unpublished, processed. Washington, D.C.: Smithsonian Institution.
- Holmgren, Patricia K.
1971. A Biosystematic Study of North American *Thlaspi montanum* and Its Allies. *Memoirs of the New York Botanical Garden*, 21:1-106.
- Lanjouw, J., and F. A. Stafleu
1954. *Index Herbariorum*, Part II. Collectors. First Instalment, A-D. *Regnum Vegetabile*, 2[2]:1-174.
1957. *Index Herbariorum*, Part II. Collectors. Second Instalment, E-H. *Regnum Vegetabile*, 9:175-295.
1964. *Index Herbariorum*, Part I. The Herbaria of the World. Edition 5. *Regnum Vegetabile*, 31:1-251.
- Lanjouw, J. (chairman), F. A. Stafleu (secretary), and members of Editorial Committee
1966. International Code of Botanical Nomenclature. *Regnum Vegetabile*, 46:1-402.
- Lawrence, G. H. M., A. F. Günther Buchheim, Gilbert S. Daniels, and Helmut Dolezal (editors)
1968. *B-P-H, Botanico-Periodicum-Huntianum*. 1063 pages. Pittsburgh, Pennsylvania: Hunt Botanical Library.
- Mackenzie, Kenneth K.
1923. *Carex*. Pages 282-344 in Leroy Abrams, *An Illustrated Flora of the Pacific States*. Volume 1, xi + 557 pages. Stanford, California: Stanford University Press.
1931-35. *Cyperaceae-Cariceae*. *North American Flora*, 18: 1-478.
- McVaugh, Rogers, Robert Ross, and Frans A. Stafleu
1968. An Annotated Glossary of Botanical Nomenclature. *Regnum Vegetabile*, 56:1-31.
- Meadow, Harriet R.
1973a. The Use of Generalized Information Processing Systems in the Biological Sciences. *Taxon*, 22:3-18. [Flora North America Report, number 67.]
1973b. The Information Systems Design for the Flora North America Program. *Brittonia*, in press.
- Meikle, R. D.
1971. The History of the *Index Kewensis*. *Biological Journal of the Linnean Society*, 3:295-299.
- Melchior, Hans
1964. *A. Engler's Syllabus der Pflanzenfamilien*, II. 666 pages. Berlin-Nikolassee: Gebrüder Borntraeger.
- Melchior, Hans, and Erich Werdermann
1954. *A. Engler's Syllabus der Pflanzenfamilien*, I. 367 pages. Berlin-Nikolassee: Gebrüder Borntraeger.
- Merriam Company, G. & C., publishers
1972. *Webster's New Geographical Dictionary*. xxxi + 1370 pages. Springfield, Mass.: G. & C. Merriam Company.
- Mickel, J. T.
1962. A monographic Study of the Fern Genus *Anemia*, Subgenus *Coptophyllum*. *Iowa State Journal of Science*, 36:349-482.
- Morse, Larry E.
1971. Specimen Identification and Key Construction with Time-Sharing Computers. *Taxon*, 20:269-282. [Flora North America Report, Number 52.]
- Prance, Ghilleen T.
1972a. *Chrysobalanaceae*. *Flora Neotropica*, Monograph Number 9:1-410.
1972b. *Dichapetalaceae*. *Flora Neotropica*, Monograph Number 10:1-84.
- Rollins, Reed C.
1966. Authors of Plant Genera and the International Plant Index. *Rhodora*, 68:35-40.
- Rouleau, Ernest (compiler)
1970. *Guide to Index Kewensis and Its Supplements i-xiv*. vi + 370 pages. Montreal: Published privately by Ernest Rouleau.
- Seltzer, Leon (editor)
1952. *The Columbia Lippincott Gazetteer of the World*. x + 2148 pages. New York: Columbia University Press.

- Shaw, E. A.
1971. The Gray Herbarium Card Index. *Taxon*, 20:333-336.
- Shetler, Stanwyn G.
1969. The Herbarium: Past, Present, and Future. *Proceedings of the Biological Society of Washington*, 82:687-758. [*Flora North America Report*, Number 28.]
1972. Information Systems and Data Banking. Pages 469-497 in Radford, A. E., W. C. Dickison, C. R. Bell, and contributors, *Vascular Plant Systematics*. vi+543 pages. Chapel Hill, North Carolina: University of North Carolina Student Stores.
- Shetler, S. G., J. H. Beaman, M. E. Hale, L. E. Morse, J. J. Crockett, and R. A. Creighton.
1971. Pilot Data Processing Systems for Floristic Information. Pages 275-310 in J. L. Cutbill (editor), *Data Processing in Biology and Geology* (The Systematics Association Special Volume Number 3). xv+346 pages. London and New York: Academic Press. [*Flora North America Report*, Number 26.]
- Shetler, Stanwyn G. (Program Director) and Harriet R. Meadow (Systems Development Manager)
1971. Flora North America: A Comprehensive Program of Biological Research, Information Systems Development, and Data Banking Concerned with the Vascular Plants of North America North of Mexico. *Flora North America Report*, 61:vii+1-124+appendices A-I.
- Stafleu, Frans A.
1967. *Taxonomic Literature*. xx+546 pages. Utrecht: International Bureau for Plant Taxonomy and Nomenclature.
- Stafleu, F. A. (chairman), E. G. Voss (secretary), and members of Editorial Committee
1972. International Code of Botanical Nomenclature. *Regnum Vegetabile*, 82:1-426.
- Stearn, William T.
1966. *Botanical Latin*. xiv+566 pages. London: Thomas Nelson and Sons.
- United States National Bureau of Standards
1970. *Federal Information Processing Standards Publication (FIPS Pub) 10: Countries, Dependencies and Areas of Special Sovereignty*. 23 pages. Washington, D.C.: U.S. Department of Commerce, National Bureau of Standards.
- United States National Herbarium
[1965.] *Index to Principal Collections Represented in the U. S. National Herbarium*. 74 pages, unpublished, processed. Washington, D.C.: Smithsonian Institution, Department of Botany.
- Willis, J. C.
1966. *A Dictionary of Flowering Plants*. Seventh edition, revised by H. K. Airy Shaw. xxii+1214+liii pages. Cambridge, England: Cambridge University Press.
- Wood, C. E., Jr., R. S. Cowan, and G. Buchheim
1963. Botanical Nomenclature, Punched Cards, and Machines. *Taxon*, 12:2-12.

Publication in *Smithsonian Contributions to Botany*

Manuscripts for serial publications are accepted by the Smithsonian Institution Press, subject to substantive review, only through departments of the various Smithsonian museums. Non-Smithsonian authors should address inquiries to the appropriate department. If submission is invited, the following format requirements of the Press will govern the preparation of copy.

Copy must be typewritten, double-spaced, on one side of standard white bond paper, with 1½" top and left margins, submitted in ribbon copy with a carbon or duplicate, and accompanied by the original artwork. Duplicate copies of all material, including illustrations, should be retained by the author. There may be several paragraphs to a page, but each page should begin with a new paragraph. Number consecutively all pages, including title page, abstract, text, literature cited, legends, and tables. The minimum length is 30 pages, including typescript and illustrations.

The *title* should be complete and clear for easy indexing by abstracting services. Taxonomic titles will carry a final line indicating the higher categories to which the taxon is referable: "(Leguminosae: Faboideae)." Include an *abstract* as an introductory part of the text. Identify the *author* on the first page of text with an unnumbered footnote that includes his professional mailing address. A *table of contents* is optional. An *index*, if required, may be supplied by the author when he returns page proof.

Two *headings* are used: (1) text heads (boldface in print) for major sections and chapters and (2) paragraph sideheads (caps and small caps in print) for subdivisions. Further headings may be worked out with the editor.

In *taxonomic keys*, for easy reference, number the taxa and their corresponding headings throughout the text; do not incorporate page references in the key.

In *synonymy*, use the long form (taxon, abbreviated author, abbreviated journal or book title, volume, part if necessary, page, year) with no reference at the end of the paper under "Literature Cited" or use the short form (taxon, author, date: page) with a full reference at the end of the paper under "Literature Cited." Begin each taxon at the left margin with subsequent lines indented about three spaces. Within an entry, use a period-dash (.) to separate each supplementary reference. Enclose with square brackets any annotation in, or at the end of, the entry. For *references within the text*, use the author-date system: "(Jones, 1910)" and "Jones (1910)." If the reference is expanded, abbreviate the data: "Jones (1910:122, pl. 20: fig. 1)."

Simple *tabulations* in the text (e.g., columns of data) may carry headings or not, but they should not contain rules. Formal *tables* must be submitted as pages separate from the text, and each table, no matter how large, should be pasted up as a single sheet of copy.

Use the *metric system* instead of, or in addition to, the English system.

Illustrations (line drawings, maps, photographs, shaded drawings) can be intermixed throughout the printed text. They will be termed *Figures* and should be numbered consecutively; however, if a group of figures is treated as a single figure, the components should be indicated by lowercase italic letters on the illustration, in the legend, and in text references: "Figure 9b." If illustrations (usually tone photographs) are printed separately from the text as full pages on a different stock of paper, they will be termed *Plates*, and individual components should be lettered (Plate 9b) but may be numbered (Plate 9: figure 2). Never combine the numbering system of text illustrations with that of plate illustrations. Submit all legends on pages separate from the text and not attached to the artwork. An instruction booklet for the preparation of illustrations is available from the Press on request.

In the *bibliography* (usually called "Literature Cited"), spell out book, journal, and article titles, using initial caps with all words except minor terms such as "and, of, the." For capitalization of titles in foreign languages, follow the national practice of each language. Underscore (for italics) book and journal titles. Use the colon-parentheses system for volume, number, and page citations: "10(2):5-9." Spell out such words as "figures," "plates," "pages."

For *free copies* of his own paper, a Smithsonian author should indicate his requirements on "Form 36" (submitted to the Press with the manuscript). A non-Smithsonian author will receive 50 free copies; order forms for quantities above this amount with instructions for payment will be supplied when page proof is forwarded.

